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EDITED BY
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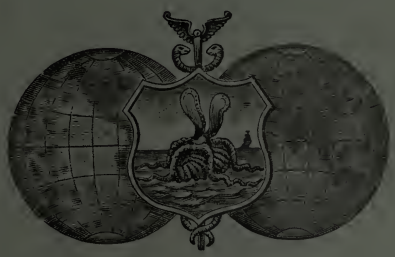

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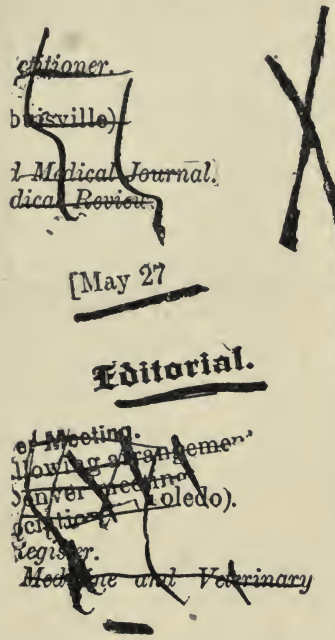

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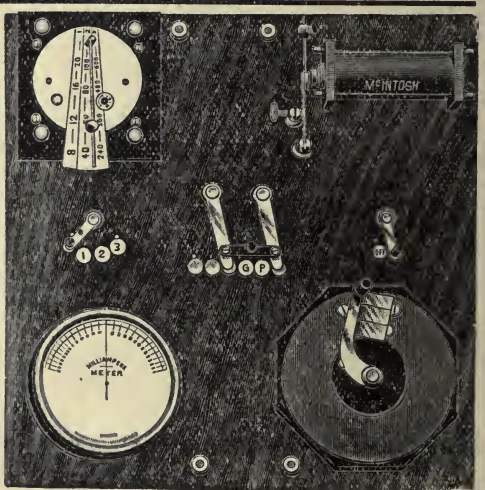

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Cyclopædia of the Year's Literature.

BLOOD EXAMINATION.

In qualitative analysis,[1] the amount of hæmoglobin, estimated upon a percentage-basis, is the true index to the richness of the blood. Other ingredients, notably albumin, may aid somewhat; but, while the latter may be increased in the blood of fairly-healthy

[1] Jour. Amer. Med. Assoc., August 13, '98.

subjects with considerable rapidity, hæmoglobin-increase is comparatively slow, and for that reason is a better indicator, regardless of the time of examination. The count of the number of red corpuscles, aside from the specific diseases of the blood itself, cannot be regarded as of such value as formerly; for instance, in neurasthenic states, it has lately been demonstrated that counts of 6,000,000 or 7,000,000 per cubic centimetre are not infrequent, yet the physical condition of the patient, together with his hæmoglobin, is below par. The determination of hæmoglobin is of little value from a prognostic standpoint in the various blood-affections proper; but in the simple anæmias, from whatever cause, it possesses decided importance.

In very few diseases, if any, does anæmia occur with such rapidity as in malarial fevers. With the exhibition of quinine, the majority of cases (the intermittents at any rate) become, not cured, but convalescent, and the problem now changes to that of improving the nutrition; in other words, the abolition of an anæmia necessarily present. The usual tonic treatment—iron, quinine, strychnine, Fowler's solution—is instituted, and it becomes necessary to note the effect, if any, of our drugs, especially iron, that the dosage may be regulated and the patient not given more than can be utilized. This can be best done and in a truly scientific manner by determining the hæmoglobin percentage. It need not be done oftener than once a week, and even a slight increase during that time will show to the physician that his patient is progressing in the right direction.

In syphilis there is always, in the active stage of the disease, more or less anæmia. If, to a syphilitic who has not been treated with inunctions or injections, such treatment is instituted, a rapid fall in the percentage of hæmoglobin usually takes place, often as high as 10 to 20 per cent. Under active treatment, if not pushed to a great degree, the hæmoglobin will return to its original percentage, and under a careful administration of mercurials even increase; so that by estimating the hæmoglobin at frequent intervals, and changing the dose to suit the condition of the hæmoglobin, one may soon be able to regulate the dosage as to bring about continuous improvement in the patient. This peculiar behavior of the hæmoglobin to mercurials does not occur except in syphilis, and in such a case is a valuable diagnostic as well as prognostic point.

John Lovett Morse[2] asserts that the blood of infants under 2 years of age differs in certain of its characteristics from that of adults. The number of red corpuscles is about the same or a little larger, averaging a little over 5,000,000 per cubic millimetre. The number of white corpuscles per cubic millimetre is somewhat larger, averaging from 10,000 to 12,000. The relative proportions of the various forms of leucocytes are also considerably different. The proportion of mononuclear, or unripe forms, is about three times as great as in adult life, while that of the polynuclear neutrophiles, or overripe form, is only half as large. The mononuclear cells, moreover, are not merely lymphocytes, but vary much not only in the size of the cell as a whole, but also in the size of the nucleus and in the amount of protoplasm. Finally, an increase in the number of eosinophilic cells, even if con-

[2] Boston Med. and Surg. Jour., April 22, '97.

siderable, seems to be of less significance.

Anæmia of various sorts is very common in children. This is because the tissue-changes in them are more rapid, as the old tissues have not only to be nourished and replaced, but new ones formed. Hence any disturbance of nutrition is more serious and results in more rapid and significant changes in the blood.

Leucocytosis develops more quickly and to a higher degree in children than in adults. While in adults the increase of white cells is almost entirely in the polynuclear neutrophiles, this is not the case in children. In them the leucocytosis is sometimes due to the increase of lymphocytes, sometimes to that of the large mononuclear forms, sometimes to that of the polynuclear neutrophiles, and sometimes even to that of the eosinophiles. According to Weiss, the lymphocytes are much increased proportionately in affections of the gastro-enteric tract, while the mononuclear cells of all sorts, as well as the transition forms, are proportionately increased in those of the respiratory tract.

The writer has examined the blood in twenty cases of active, uncomplicated rickets in infants under 2 years of age. The blood was in every case taken from the lobe of the ear, and examined with a Thoma-Zeiss apparatus. It was diluted (1 to 200) with a 3-per-cent. salt solution colored with methylene-blue. The red corpuscles in $^1/_{10}$ cubic millimetre and the white corpuscles in 2 cubic millimetres were counted. The hæmoglobin was estimated with a von Fleischl instrument. Coverslips were in all cases made at the same time, hardened in equal parts of alcohol and ether, and stained with Ehrlich's "triple stain." A differential count of at least 500 white corpuscles was then made, the classification recommended by Ehrlich being used. As far as possible, the blood was taken about noon, and in most cases about three hours after food. The results obtained in these cases, together with those obtained by others, seem to justify the following conclusions: Most cases of rickets are accompanied by anæmia. This anæmia may be of any form and of any grade of severity. The severity of the anæmia varies in a general way with the severity of the process. The most common form is that in which the number of red corpuscles is normal or nearly normal, and the percentage of hæmoglobin both absolutely and relatively diminished. The anæmia may or may not be accompanied by leucocytosis. Leucocytosis occurs more frequently in the cases with splenic tumor than in those without. It may be due to an increase in any or all of the varieties of white corpuscles. The specific gravity varies with the amount of hæmoglobin. Finally, there is no form of anæmia found in rickets which may not be found in other conditions, and no form of anæmia found in other conditions which may not be found in rickets.

F. P. Henry[3] claims that in cases of cancer of the stomach in which there are no characteristic symptoms present, in which cases it may be difficult to distinguish between pernicious anæmia and cancer, a positive diagnosis may be reached by counting the blood-corpuscles. The author has never seen a case of cancer of the stomach in which the number of red blood-corpuscles has been less than 1,500,000 per cubic millimetre, and has never seen a case of fatal pernicious anæmia in which the number of red cells has not been less than 1,000,-

[3] Arch. f. Verdaugskh., April, '98.

000. The reduction of the number of red blood-corpuscles in cancer of the stomach does not keep pace with the cachexia.

Limbeck[4] has observed that great increase in white blood-corpuscles frequently occurs in cases of medullary sarcoma and lymphosarcoma. The resemblance between the blood in these conditions and in leukæmia is very great, so that a differential diagnosis is not easily made. The increase of white blood-corpuscles in sarcoma is really due to the existence and growth of the tumor, and disappears with the removal of the new growth. Upon this circumstance rests the significance of the examination of the blood in sarcoma. Some years since the left leg of a man who had a medullary sarcoma of the tibia was amputated through the knee-joint. It was desirable to know whether or not there were metastases remaining. The high leucocytosis fell after the operation, and was no greater than could be accounted for by the wound. Some weeks later there was a marked increase of white blood-corpuscles, although neither in the cicatrix nor elsewhere could a new growth be found. The patient failed and died, and the autopsy showed multiple sarcomata in the lungs.

According to Geo. D. Head,[5] the presence of pus in the abdomen is usually attended by a well-marked leucocytosis. This fact holds true, whether the infected point be localized about a diseased appendix or in a Fallopian tube, or whether the general peritoneum is involved. The height to which such a count may arise varies under different conditions. Sometimes the number of white cells counted may not exceed 15,000 leucocytes, while in other cases the leucocytosis may reach 40,000 to 50,000. In general, the milder the infection, the lower the leucocyte count, while the more severe the infection, the more white cells will be counted in the circulating blood. The leucocytosis produced by the presence of pus in the abdomen, even though so variable, is usually high enough to be of great clinical value in establishing the presence of a pyæmic infection. However, in some long-standing cases of suppuration where the pus is well walled off from the surrounding tissues, the white count may be normal or only slightly increased. Likewise in very severe, usually fatal septic infections of the abdomen—such, for example, as a general suppurative peritonitis—the leucocyte-count may be normal or only slightly increased. This is the most important exception to the rule of leucocytosis in pyæmic infections of the abdomen, and should always be borne in mind in grave cases of abdominal disease where pus is suspected.

In typhoid fever the leucocyte-count is normal in the first week, while in the second, third, and fourth weeks the count is usually decreased and there is an actual leukopenia. This knowledge furnishes a means of differential diagnosis of the greatest value, particularly in diseases of children. Cabot says: "I have seen good clinicians puzzle for twenty-four hours over a diagnosis between appendicitis and typhoid fever, but the indications of the blood-count were always fulfilled." In a case in which the Widal reaction pointed toward typhoid fever, while the clinical symptoms were those of rabies, the white-blood count was 22,000 corpuscles. The autopsy revealed no typhoid lesions and confirmed the conclusion of the white count.

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[4] Medical News, Jan. 16, '97.

[5] Northwestern Lancet, July 1, '98.

In tubercular peritonitis there is no increase in the number of white cells in the blood. In sarcoma and carcinoma of the abdominal viscera the white-blood count is of no diagnostic value, since in some cases the leucocytosis is high, while in others little or no leucocytosis exists. The red-blood mixer of a Thoma-Zeiss hæmocytometre and a bottle of $^1/_3$-per-cent. glacial-acetic-acid solution in water should be constantly carried in the medical hand-satchel.

Thomas Turnbull, Jr.,[6] states that in diphtheria there is a marked hyperleucocytosis, which begins early after infection, and is more marked in refractory than susceptible cases. It is greatest at the crisis and steadily decreases during convalescence. In unfavorable cases the leucocytosis continues until death; but in somewhat prolonged cases, with much septic absorption, there may be an uninterrupted decrease of leucocytes continuing to the fatal termination. The staining reaction of the leucocytes is an accurate measure of the severity of the diphtheric infection, and variations in this reaction often precede changes in other symptoms. The increase of poorly-staining leucocytes and amœboid leucocytes usually shows that the disease is taking an unfavorable course. If the leucocytes do not stain better within twelve hours after an injection of antitoxin, it is an unfavorable prognostic sign. Antitoxin, within thirty minutes after its injection, causes a decrease in the number of leucocytes, especially the uninuclear, while the proportion of the well-stained polynuclear cells is increased. In favorable cases the hyperleucocytosis, after the injection of antitoxin, never reaches its original height.

Bacteriological examination of the blood made by Hans Kohn[7] in pneumonia proved that, in by far the greatest number of cases which recovered, the cultivation-experiments were negative, whereas in the large majority of fatal cases of pneumococcus was found in the blood. The colonies varied from 2 to 200. The positive results were obtained twenty-four to forty-eight hours before death. The presence of the pneumococcus in the blood is, therefore, of unfavorable import, and these results confirm those obtained by others observers. Thus in a certain number of cases of pneumonia the severity of the disease is due to a complicating sepsis, namely: a pneumococcus sepsis. To the other possible causes of death sepsis must be added. It is possible that the cardiac failure is due to the action of toxins, which may even act more powerfully when the micro-organisms are present in the blood.

G. Lovell Gulland[8] has discovered a rapid method of fixing and staining blood-films. A small drop of blood, drawn in the usual way, is taken up on the centre of a cover-glass held with forceps, and distributed evenly between that and another cover. The utmost care must be taken to avoid all pressure, as the after-appearance of the red corpuscles depends almost entirely upon the way in which this manœuvre is carried out. The covers are then gently and rapidly slid off one another, and dropped, with the wet side downward, into the fixing solution. This is made up of:—

Absolute alcohol saturated with eosin, 25 c. centimetres.
Pure ether, 25 c. centimetres.
Sublimate in absolute alcohol (2 grammes to 10 c. centimetres), 5 drops (more or less).

[6] Med. and Surg. Reporter, Jan. 2, '97.
[7] Deutsche med. Woch., Feb. 25, '97.
[8] British Medical Journal, March 13, '97.

The quantity required for use at one time, which may be 5 to 10 cubic centimetres for four cover-glasses, should be poured into a wide-mouthed bottle or flat dish, and may be used several times over if it be preserved from evaporation. The writer generally keeps the three liquids in different bottles and makes up the required amount in the above proportions just before using it. The fixation of the elements is practically instantaneous, but the cover-glasses should be allowed to remain in the solution for at least three or four minutes, to fix the film to the cover. They are then taken from the solution by forceps (steel forceps will do), and washed rapidly, but thoroughly, by waving them to and fro in a small basin of water. They are then stained for one minute (not longer) in a saturated watery solution of methylene-blue, and again rapidly washed in water. Next they are quickly dehydrated in absolute alcohol, which at the same time removes the excess of methylene-blue, cleared in xylol, and mounted in xylol-balsam on a slide. The whole process need not occupy more than six or seven minutes; but, on the other hand, any portion of it may be prolonged without injury to the specimen. The fixation may be continued for twenty-four hours, the washing for the same time; but if the staining with methylene-blue be prolonged for more than a minute or two it becomes necessary to use an inconveniently large amount of absolute alcohol to remove the excess of the stain, and the eosin is apt to be washed out at the same time. The red corpuscles are stained pink, nuclei a deep blue, the bodies of the leucocytes in varying shades of pink; the eosinophile and basophile granules in the leucocytes are well brought out; the blood-plates are stained a fainter blue than the nuclei, and organisms are also well stained. Any other acid stain which is soluble in alcohol and not precipitated by sublimate may be used instead of eosin, and the stain may be omitted from the fixative altogether, so that the cover-glass after fixation in the alcohol-ether-sublimate may be stained in any way that is desired. The cover-glasses used must be scrupulously clean; the simplest way of insuring this is to put them for a few minutes in glacial acetic acid, then wash them with plenty of water so as to remove the acid thoroughly, and dry them with a fine handkerchief. A large quantity should be treated at one time and stored up. The thinner the film, the better the fixation. As it is not possible in specimens mounted in balsam by whatever method exactly to reproduce the appearance of red corpuscles as seen in freshly-drawn blood, it is desirable to control balsam preparations by examining fresh blood, or still better by pricking the finger through a drop of 2-per-cent. osmic-acid solution, and examining the preparation thus made as a fluid mount. This is specially desirable where the red corpuscles are altered in shape to a slight extent; greater degrees of poikilocytosis can easily be made out in balsam preparations.

HOT-AIR TREATMENT.

C. H. Frazier[9] calls attention to an apparatus which has been employed in a series of cases in the University Hospital, where some three hundred baths were given to test its efficiency. It was found to be most satisfactory. The required temperature can be obtained quickly, in from ten to fifteen minutes, and the apparatus is substantially, but simply, con-

[9] Annals of Surgery, Oct., '97.

structed, and involves nothing that can get out of order or require repair. The cases that were treated included acute and chronic articular rheumatism, gonorrhœal rheumatism, gout, traumatic arthritis, synovitis, tenosynovitis, and fibrous ankylosis.

The method of administering the bath is as follows: The patient's pulse and temperature are first taken and recorded. The limb, first being completely enveloped in a piece of lint, which is wrapped loosely about the part, is then placed in the cylinder. The time allowed for each bath is from three-quarters of an hour to an hour. At intervals of twenty minutes the door of the cylinder is thrown open momentarily to allow of the ingress of a fresh supply of air. If the patient perspires freely, this opportunity is taken advantage of to wipe the limb thoroughly dry. If this precaution is not taken and the limb is allowed to remain bathed with sweat, there is the possibility, if the temperature is exceedingly high, of a superficial burn resulting. This happened in several cases where the precaution was not taken. The degree of temperature employed varies, some patients bearing with perfect comfort a degree of heat which would be extremely painful to others. The average is about 300° F. The frequency with which the baths are given varies with the severity of the case; usually, however, they are administered on every other day.

Certain physiological phenomena follows the application of heat, such as increased arterial tension, elevation of the blood-pressure, dilatation of the lumen of the blood-vessels, diminution of the erythrocytes, decrease of hæmoglobin, increase in the elimination of nitrogen, and increase in frequency of the heart's action. In cases in which there is a diathesis, either rheumatic or tuberculous, this treatment can have no beneficial constitutional effect.

Permanent cures of local lesions, symptomatic of diathetic diseases, are not to be looked for from the employment of hot-air baths, but for the relief of joint affections of traumatic origin this method of treatment is most useful and sometimes indispensable, and the results obtained can be called permanent.

E. L. Morse[10] reports a case of malignant senile gangrene cured by topical application of intense dry hot air. The patient, aged 79 years, was attacked with gangrene (senile) in the left foot. Physical examination of the two middle toes, which were affected, revealed a deep ulcerative process, involving also the adjacent structures of the dorsal side of the foot; aside from the general sloughing, the toes were practically dead. Poultices, cauterizations, and antiseptics proved of no avail. Amputation was out of the question on account of the existing heart-trouble (mitral insufficiency), which was quite pronounced. Then decided symptoms of blood-poisoning set in. Added to this the general weakness, due to disease and age, and it was evident that any harsh surgical procedure would almost to a certainty be followed by shock and death. The sloughed tissue was dissected away and the wound treated antiseptically. The condition assumed a worse form, the leg becoming endematous from the knee down and hyperæsthetic. As a last resort, the writer determined to try hot air. The limb up to the lower third of the thigh was wrapped in a towel and put into the cylinder and the air within heated gradually to 350° F. Two treatments a day were given, the temperature reaching later 400° F., for two weeks. Continu-

[10] Indian Lancet, July 1, '98.

ous observation proved a decided diminution of the œdema, healing by granulation of the sloughed tissues, and improvement of the constitutional septicæmic symptoms. Patient was discharged in two weeks, and is working on his farm.

A. Graham Reed[11] says a year's experience with the Sprague Hot-Air Therapeutic Apparatus has demonstrated that its use is by no means confined to the treatment of what is generally understood by the terms "rheumatism" and "gout." Its successful application covers a wide range of diseases, particularly of bronchial and asthmatic difficulties, general neurotic conditions, tonsillitis, conjunctivitis, etc., while it is almost a sovereign remedy for sprains or bruises and synovial effusions. Nor has it often been disappointing in its action in the usual types of gout or rheumatism. Even where tophi have formed, the solidifications are frequently softened and carried off through the excretory organs.

The skin and kidneys are stimulated by the hot blood, circulation is restored to the affected part, sleep returns to the sleepless, and the general economy is rejuvenated.

In chest and pelvic diseases the patient is put into the body-machine, an apparatus consisting of a metal or treatment section about 30 inches long, with a closed canvas extension for the feet and a canvas curtain at the free end, from which the head protrudes; it being comfortably pillowed, a pleasant sleepiness is frequently experienced by the patient. The heat is diffused over a larger surface of metal than in the leg-machine, and is showered down through a great number of minute openings on to the patient's body, which is covered by a bath-robe. In this machine a temperature of 250° or 260° F. seems sufficiently high to obtain desired results. Perspiration is profuse, the lymphatic circulation is stimulated, and the joints and ligaments become more flexible.

Age does not seem to be much of a hindrance to recovery; for instance, a Mrs. S., over 80 years old, had rheumatism for the last twenty-five or thirty years, but was very much worse during the last twelve months. Extensive tophi had developed in the knees, and she had not been down to her meals for five years. After four treatments the "creakiness" disappeared, and on the day of her sixteenth hot-air bath she took a walk of seven squares. She was discharged perfectly well and apparently a much younger woman. An average temperature of 320° was employed in her case.

As regards the effect on chest affections, a remarkable case was that of a lady with lobular pneumonia of the right lung. After several days of distressing cough, she was placed, on March 20th, in the body-machine for an hour. The congested and inflamed lung was immediately relieved, the cough suddenly left, and up to June 1st had not reappeared. Chronic bronchitis has also been wonderfully responsive to the treatment.

The blood becomes heated from 1° to 5° F., and this seems to be the therapeutic factor. The heat stimulates to action the clogged-up vessels and congested tissues and incites healthy metabolism. Profuse diaphoresis is promoted without the unpleasant head-symptoms usual in a steam-bath, as the patient breathes the ordinary air of the room. The dilatation of the blood-vessels and the flow of blood in the skin are greatly increased, and we have every reason to believe that the same hyperæmia exists in the subcutaneous tissues. After re-

[11] Philadelphia Polyclinic, August 6, '98.

moval from the machine in which the patient is usually kept one hour, another hour or more if necessary is allowed for the drying off, the contraction of the skin, the falling of the temperature to the normal, and to the reclothing for exposure to the out-door air.

All cases, as far as heard from, have kept what they gained, excepting in so far as they have returned to errors of diet and lack of exercise. As a matter of course, the originating causes may induce a return of the trouble. Very frequently when a backslider feels an admonitory symptom, he returns for a prophylactic bath.

Sciatica of several months' standing, lumbago, and torticollis have been cured in one application, but there are forms of rheumatism and goutiness which require many and frequently-repeated treatments, taxing the utmost skill of the physician and the perseverance of the patient. Yet, by repeated and well-directed efforts, the soreness is nearly always relieved, and the pliability of the affected parts restored in some degree.

Several cases of rheumatoid arthritis have been treated with more or less success; more, as regards alleviation of the soreness and general symptoms, but less as regards restoration of mobility to the joints involved. In all instances where persistent effort is made, progress of the disease has been checked and relief from acute suffering obtained.

A professor in a Western college was a victim of arthritis deformans, and came for treatment last June. He was obliged to sit with his legs straightened out, and for a year had been unable to feed or dress himself, and could not rise from a chair without help. He was treated in the leg-machine at a temperature varying from 280° to 340°. The diaphoresis was excessive; his temperature would rise from 2° to 4° during the hour, and hot blood coursed through the swelled limbs, reducing the swelling and relieved the pain. After twelve baths he was able to feed himself and ride a bicycle six miles. After twenty-five treatments he was so much improved that he went north to the Adirondacks, where he carried out various exercises prescribed for him, such as chopping and sawing wood, pitching quoits, etc. The improvement continues to the present time.

In the course of the 1400 treatments given during the last twelve months many exceedingly interesting types of disease have been examined and the great majority have been relieved. The failure of an apparatus to run to a very high temperature must certainly curtail its usefulness. Not that this mode of treatment is a panacea, by any means, but that it is proved to be far-reaching in its direct and correlative tendencies. Acting as well on deep-seated tissues and internal organs as on the periphery of the body, it becomes a most useful adjunct to medical and surgical treatment.

S. Solis-Cohen[12] says that there is no question that it is to be considered among our useful therapeutic measures, and the more one works with it, the more enthusiastic he is likely to be from the results accomplished and the greater is the authority with which he can speak of the range of its application. So far as rheumatoid arthritis is concerned, the author has become satisfied that in his own hands the treatment is almost useless. It is fair to say that the hot air was applied locally only; he did not use the Turkish bath, or Dr. Reed's modification of the Turkish bath, by means of what he calls the "body-instrument." It

[12] Philadelphia Polyclinic, July 30. '98.

is true that pain was relieved, and for a while autohypnotic suggestion made the patients believe that they were improving generally; so that if the patient had been discharged after ten or twelve applications, and the patient herself allowed to report as to the result of treatment, that report would have been extremely favorable. But he continued long enough to enable him to form a judgment as to whether pathological conditions were altered, and he became satisfied that they were not.

J. T. Rugh[13] has generally observed very good results following applications of hot air for about an hour, the temperature being brought up to about 250°, and in some cases to 300°. The structures about the joints are much softened by such treatment, and yield to forced stretching. The writer has recently corrected the deformity in the majority of a series of cases of flat-foot by baking them thoroughly and applying, under an anæsthetic, a screw form of corrector, and thereby forcibly reducing the existing contractions.

Alice M. Seabrooke,[14] who has had a liberal experience in the use of this agent, says that it is almost always followed by good results, there being only one case in which there was much inflammation about the joints and in which success did not attend the treatment.

STOMACH, DILATATION OF.

Symptoms.—William H. Broadbent[15] states that the imperfect assimilation of food when the stomach is much dilated leads to loss of flesh and strength, and the skin is usually harsh and the complexion pale and sallow. Other symptoms are constipation, thirst, and a flabby or coated tongue. Others, again, are attributable to the effects of ptomaine poisons, generated by septic organisms in the stomach or intestinal canal, upon the nervous system—headache, depression, which may amount to melancholia, irritability, prostration of strength, and incapacity for mental or physical exertion, occasionally stupor, or even coma.

Nettle-rash and other cutaneous eruptions may be distinctly due to dilatation of the stomach produced by reflex irritation transmitted to cutaneous nerves, or by absorbed matters which affect the nutrition of the skin.

The most characteristic, but by no means the most common, symptom of dilatation of the stomach is copious vomiting daily or at irregular intervals. The time at which it most commonly ocurs is in the night, either soon after lying down or in the early hours of the morning, but it may take place at any time. The amount brought up may be astonishingly large, and may seem to be more than the patient can have taken for the previous twenty-four hours. The vomited matters are mostly brown, acid, and evidently in a state of fermentation, but sometimes food taken two or three meals previously may be recognizable. On the other hand, a patient may be sick immediately after taking milk or food, and the vomited matters exhibit no trace of what has just been swallowed, this having been lost in the large amount of fluid which the stomach already contained. The vomiting may be preceded by pain, sometimes severe, and by oppression, but very frequently the nausea and deadly faintness which commonly attend sickness will be entirely absent; the contents of the stomach are easily and rapidly ejected, the discomfort and sense of distension is relieved, and the patient feels well.

[13] Philadelphia Polyclinic, July 30, '98.
[14] *Ibid.*
[15] Practitioner, Jan., '98.

Very commonly, in cases characterized by vomiting, visible peristalsis of the stomach is started by manipulation, and can be seen to travel from left to right. This affords the best possible demonstration of the size and situation of the stomach.

Palpitation of the heart is very frequent, and is one of the symptoms which compels patients to seek medical advice.

Irregular action of the heart, occasional or persistent, is frequently caused by dilated stomach, as is also intermittent pulse. Like palpitation, the irregular or intermittent action of the heart may occur after a particular meal, or after all meals, and is then most characteristic.

Another symptom is anginoid pain. This, when of gastric origin, is always due to dilatation, or at any rate to distension, and is apparently produced by actual pressure upon and embarrassment of the heart. It may be so severe that, taking only the patient's account of the attack, it could not be distinguished from true angina pectoris, and the extension of pain down the left arm, or down both arms, may be present. The first hint in such a case that the pain is pseudo-anginoid, and not angina of cardiac origin, is often obtained by learning that the early attacks were not necessarily associated with exercise, but that perhaps the very first was extremely acute, and that it occurred in the night or during repose. Angina, unless precipitated by some sudden violent exertion, usually comes on gradually, the pain at first being experienced only when the patient is walking uphill, or against a wind, or goes out on a cold morning, and ceasing with the suspension of the exertion, succeeding attacks being more easily induced and more severe. Gastric pseudo-angina may stimulate true angina in supervening during exercise, but there is generally more oppression of the breathing than pain.

Another symptom produced by dilatation, or perhaps more frequently by distension of the stomach, is vertigo. The subject of gastric vertigo rarely falls; but the giddiness may be so severe that the patient clings to railings in the street, or makes his way across a room by taking hold of chairs and tables, and it is often excited by movement, sometimes by turning in bed, very frequently by the act of rising from bed. This giddiness appears to be due to mechanical pressure, since it almost always disappears on the escape of a few cubic inches of gas by eructation.

Sleeplessness is a common effect, but a striking characteristic of various symptoms attending habitual distension of the stomach is that they come on after the first sleep, often with remarkable punctuality at a given hour.

S. B. Fowler[16] observed the case of a boy, 16 years old, who, while hauling logs, was taken with pain in the abdomen, and was constipated. Two days later the patient was very weak. Pain in the abdomen, tumor to the right of the umbilicus the size of a fist, and vomiting of fæcal matter were present. The abdomen was distended; the lightest touch caused vomiting; splashing in the stomach was heard. Constipation not being relievable, the diagnosis of intussusception was made, and it was decided to open the abdomen. Ether was given, and the patient vomited over a half-gallon of green fluid. Upon opening the abdomen below the umbilicus the first thing seen was the stomach, filling almost the entire abdomen, and almost as thin as tissue-paper. No obstruction

[16] Nashville Jour. Med. and Surg., April, '98.

was found at the pylorus, but, about midway in the ileum, two obstructions were observed in one place. The bowel had invaginated about one and a half inches, and about nine inches from the first place was another, which was invaginated about six inches. The intussusception was overcome, and the patient came out of the operation in good condition. Rectal feeding was given, with no food by the stomach. The boy rested well until the night of the fourth day, when vomiting set in, and he died from collapse. All of the cases reported, so far as the author has been able to see, of acute dilatation of the stomach are seven in number, six of which terminated fatally.

During the course of convalescence from some acute or chronic disease, Fenger[17] claims that the stomach may undergo rapid dilatation.

This condition is marked clinically by a sudden and violent onset; vomiting is violent and intractable: large quantities of fluid are ejected; the fluid is usually greenish, due to admixture of bile. The patient is reduced to a state of relapse or exhaustion, which may prove fatal in a few days.

During the progress of the disease the abdomen becomes distended, the right hypochondrium remaining flatter. The bowels move spontaneously, and a splashing sensation may be elicited over the site of the distension. Sensorium usually cloudy. If treatment is unsuccessful the abdomen becomes more distended, vomiting ceases, and the patient dies of exhaustion.

Indications for treatment are:—

(*a*) Supportive measures.

(*b*) Use of stomach-tube one or more times daily, as early in the case as possible.

(*c*) Rectal feeding.

(*d*) No food by the mouth until vomiting is nearly or quite controlled. The treatment without lavage is unavailable, and use of narcotics worse than useless.

Diagnosis.—In considering the differential diagnosis Pepper and Stengel[18] say following points must be remembered: Megalogastria may be met with without symptoms of functional disturbance. Such cases can be regarded as physiological or natural largeness of the stomach, provided that there is no sign of stagnation of food, or of disturbance of digestion. Gastroptosis or displacement of the stomach, the vertical position of Kussmaul, or gastroptosis of Glénard, must not be confounded with gastrectasia. In these cases it is most desirable to determine the position of the pylorus and lesser curvature. Obstruction must always be clearly distinguished from atonic gastrectasia. Obstructive dilatation is generally progressive and persistent. The obstructive forms are still further to be differentiated into the malignant and non-malignant.

Etiology. — Pepper and Stengel[19] would classify all cases of dilatation into two groups: (1) *atonic dilatation*, and (2) *obstructive dilatation*. Atonic dilatation may occur (1) by primary or absolute atony of the walls; (2) by secondary or relative weakness. Primary atony occurs in persons of relaxed fibre; in nervous anæmic, or debilitated conditions; or it may be a complication of chronic or even of acute gastritis. Sometimes it may be acute. Relative atony results from overeating and drinking; by adhesions or by dragging of the omentum

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[17] Clinical Review, Feb., '98.

[18] American Jour. Med. Sciences, 34-60, Jan., '97.

[19] *Ibid.*

in corpulent persons. Obstructive dilatation is dependent upon pyloric stenosis, and due to diseases of the pylorus itself or to outside causes. Carcinoma and cicatrices of pyloric ulcers are the most important lessons; but, occasionally, other neoplasms or hypertrophy of the pyloric, fibrous, or muscular tissue may be active. Abdominal inspection often reveals abnormal distension. Peristaltic movement can sometimes be detected. The veins of the lower portion of the abdomen, particularly those passing upward over the iliac fossæ, are habitually enlarged and prominent. Succussion-splash can be obtained when the viscus contains fluid. Auscultatory percussion furnishes a reliable indication of the position, and, to a certain extent, of the size of the stomach. In applying the method a double stethoscope with long rubber conductors is used; so that while the patient supports the bell near the position of the fundus, then below and toward the body or pyloric end, the observer is able, without discomfort, to perform the percussion, approcahing the stomach gradually from all points. Next, the percussion is reversed, the finger or pleximeter being placed over the stomach itself and near the bell of the stethoscope; then gradually carried outward toward the periphery, until the limits of the organ are passed. Lactic acid, when present, is an indication of stagnation. The amount of urine is another indirect evidence of motor insufficiency.

Treatment.—J. A. Storck[20] has used formalin in three cases of dilatation of the stomach with most gratifying results. Where fermentation is marked, the stomach should be washed out before breakfast. Plain water at 40° C. is used first, then 1000 cubic centimetres of a 1-per-1000 formalin solution is now allowed to flow slowly into the stomach, and withdrawn after two to five minutes, plain water at 40° C. being used finally.

Lyman[21] says that the first thing to be attempted in gastric dilatation is the emptying of the stomach. This can be most easily and safely accomplished by the use of a soft-rubber stomach-tube, to the upper end of which a funnel is attached. The daily use of the siphon should be continued until satisfactory evidence of improvement is apparent. It may then be introduced every other day, and with less frequency as the case progresses more favorably. The patient should remain in bed for several hours after each operation of lavage, and should apply to the epigastrium and gastric region an ice-bag wrapped in a napkin. A sponge-bath with cold water should be taken every morning on rising and on retiring at night. If so situated that he can use shower-baths of cold water they should be taken every day—preferably in the morning. Light gymnastic exercises and walking in the open air must be enjoined, and the patient must be taught to aim at procuring at least two hours of such exercise—an hour in the morning and another in the evening. If the heart and kidneys are free from disease, horseback-exercise and moderate bicycling will be found useful. The daily application of faradic electricity—placing one pole behind the spleen and moving the other over the region of the stomach for five minutes once or twice a day—is often very beneficial. Good results are also derived from intraventricular faradization,—passing one electrode into the stomach

[20] New Orleans Med. and Surg. Jour., March, '97.

[21] Jour. Amer. Med. Assoc., April 17, '97.

while the other is applied externally in the usual way. The patient must receive his food in small quantities every two hours. Liquids must be largely withdrawn from the diet-lists. Thirst may be relieved by rectal injections of cold water thrown high up into the colon with a long tube. Sugar, starch, and fat should be given in very small quantity. The food should consist chiefly of tender meat well minced, toasted bread, milk, soft-boiled eggs, oysters, and concentrated broths. As improvement appears a larger variety may be gradually introduced. Ten drops of dilute hydrochloric acid should be taken in 4 ounces of hot water after three principal meals each day. One-half hour before each of those meals the patient should take 5 grains of salol or of salicylic acid, or 1 grain of resorcin or of carbolic acid, or 5 grains of sodium hyposulphite, to check the fermentative process during the approaching period of attempted digestion.

Whenever there is pyloric obstruction or such accumulation of contents as to give rise to copious vomiting, Broadbent[22] recommends the stomach-tube. The best time for using it is in the evening, when it helps to secure a night's rest.

When lavage is not demanded, and this will be in the great majority of cases, the immediate object will be to relieve existing dilatation or overdistension.

Diet is a matter of the first importance. The meals must not be bulky. Very little liquid, therefore, must be taken with food. Starchy articles of diet must be minimized, both as being bulky for the amount of nourishment they contain and as being liable to fermentation. Only one kind of vegetable should be taken at a meal. Soup need not be absolutely forbidden, but it should be clear and the quantity should be very small. A small tumbler of hot or cold water may be drunk night and morning, and half an hour before the principal meal.

Overdistension may be actively dealt with by sodii bicarb., 20 grains; sod. sulphocarbolate, 7 $^1/_2$ grains; tr. nucis vomic., 7 $^1/_2$ to 10 minims, with spt. ammon., tinct. chloroform, and peppermint-water, or other carminative, three times a day, rather nearer the next meal than the last, morning and afternoon and near bed-time. This may be replaced in a few days by an acid tonic with pepsin taken immediately after meals. It is well, however, to continue the evening dose of the alkaline carminative, perhaps without the nux vomica. Other measures for checking fermentation in the stomach, and obviating or removing distension by gas, are carbolic acid or creasote in 1- or 2-minim doses in pill, capsule, or palatinoid, given when digestion ought to be completed; creasote with bismuth, charcoal and magnesia, in a cachet, or suspended in a little mucilage. If catarrh has been a prominent feature in the history, bismuth with magnesia or soda, half an hour before food, and hydrochloric acid with strychnine or quinine, or calumba and pepsin, after meals would be indicated. A minute dose of hydrarg. perchlorid., $^1/_{32}$ or $^1/_{24}$ grain, with the tonic is often of very great service.

When the dilatation is attributable to atony of the muscular coats of the stomach, and is a part of a general neurasthenic condition, arsenic and strychnine are the remedies which have appeared to be of greatest service—say $^1/_{24}$ grain of each in a pill with ext. calumb., gentian, or anthemidis, to which may be added

[22] Practitioner, Jan., '98.

papain or pepsin, and, if constipation is obstinate, rhubarb or a fractional dose of aloin.

Attention will, in all cases, be paid to the condition of the bowels, and constipation will be obviated by aloetic or other suitable aperients.

Favorable hygienic conditions should be secured as far as practicable.

Boardman Reed [23] says that the mildest cases of dilatation of the stomach and some of the worse ones will often yield to diet and exercise alone. The more severe ones, including even those of long standing and those complicated by gastritis, will usually improve greatly upon a careful, non-fermentable diet, lavage, special exercises for strengthening the abdominal muscles and either massage of the abdomen or intragastric electricity, the choice being dependent upon the activity of the secretion of the gastric glands. Massage suits best when there is a deficiency of the gastric juice and is apt to aggravate when there is hyperchlorhydria. This aggravation is especially to be apprehended from a deep, thorough kneading.

Intragastric electricity in the form of a strong faradic current is very efficient in strengthening the weakened gastric muscle and in contracting the dilated organ. Treatment should be given from 5 to 8 minutes at a time on alternate days.

In cases of chronic gastritis with deficient secretion and dilatation, electricity with lavage, massage, and the administration of HCl internally were followed by an increase in the amount of the secretion and contraction of the stomach.

The form of special exercise prescribed for patients with dilatation of the stomach is the use of sets of the now familiar pulleys with elastic cords. No other exercise, unless it be rowing, is so useful in developing the abdominal and trunk muscles generally.

SYPHILIS.

Symptoms.—D. W. Montgomery[24] observes that cerebral symptoms are among the well-recognized phenomena of early secondary syphilis.

Syphilis, according to C. W. Hitchcock,[25] figures very largely in the etiology of diseases of the nervous system generally. There are comparatively few forms of insanity in which it does not stand in a causal relation, and one writer has gone so far as to claim that tabes is essentially a syphilitic disease, alleging that fully 90 per cent. of cases of this disease date back to a specific origin. Where syphilis is the prime etiologic factor in nervous affections, its effect almost uniformly is to produce an atypical form of disease. A very long immunity, not only from any nervous manifestations, but also from any secondary or tertiary specific troubles, which may follow the initial lesion, not infrequently renders it difficult for the patient to recall the occurrence of luetic trouble, and, therefore, it is likely to be a common source of confusion and difficulty to the physician. It must always be remembered that syphilis of the nervous system may develop at any time, from a few months to thirty years after the primary infection.

Gumma and arterial disease are, perhaps, the more common forms of the syphilitic lesion. The site of the gummatous process is all-important, and may have much to do with the character of the symptoms developed, whether occlusive, merely mental, or paralytic in character.

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[23] Jour. Amer. Med. Assoc., July 30, '98.
[24] Medical News, March 6, '97.
[25] Medical News, August 6, '98.

The symptoms naturally depend upon the pathological phase present in any given case. While a chronic process may have long preceded the onset of serious symptoms, these may seem to come from a clear sky: *e.g.*, an apparently-acute meningitis may rapidly develop, with violent convulsions, and possibly hemiplegia, more or less complete, follow.

Rubino[26] remarks that epileptic seizures may occur in secondary syphilis as well as in tertiary, and states that they are due to lesions of the superficial structures, or to the direct action of the syphilitic virus on the brain-centres, manifesting itself in patients liable to neuropathic symptoms. It is right to regard secondary syphilis as the cause of the epilepsy when this occurs in adult age without any other known cause, and in persons in whom the specific affection has either remained latent or has only given rise to slight symptoms. As regards clinical symptoms, syphilitic epilepsy does not differ from ordinary epilepsy, but differs in yielding to antisyphilitic treatment. This treatment should be continued for a considerable time.

Legrain[27] reports three cases of syphilitic disease of the uterus. 1. The first case, aged 50, had a uterus enlarged to the size of a seven-month fœtal head, the fundus being three fingers' breadth above the pubis. The cervix was not discernible. The patient was cachetic, and suffered from greenish-yellow discharge. No ulceration. Antisyphilitic treatment brought the uterus to its normal condition. 2. The second case, aged 54, suffered from metrorrhagia, resulting in anæmia. The uterus was uniformly enlarged, but not fixed. Cervix normal; gumma on tibia. Under iodides the uterus resumed its normal size, the metrorrhagia ceased, and the anæmia improved. 3. The third case, aged 38, was diagnosed as one of interstitial fibroids. Papular syphilide on knees and elbows. Treated by calomel injections of $^1/_3$ grain daily. Under a mixed intermittent treatment of protoiodide pills and iodide of potassium the uterus soon became normal.

The author considers these cases to be parenchymatous and fungous metritis, due to diffuse cell-infiltration of the uterus rather than gummata.

Eugene Fuller[28] says that primary gumma of the epididymis is exceedingly rare, but late syphilis in the epididymis, not in the form of gumma, is occasionally seen. It is an infiltrating lesion of the epididymis, which generally extends into the parietal layer, giving rise to the feel of a "clam-shell" configuration. This condition is almost always associated with hydrocele.

J. A. Fordyce[29] claims that gummatous infiltrations and interstitial inflammations of the kidneys are the result of old-standing syphilis. It is, however, still a moot point whether a specific parenchymatous nephritis is ever the direct result of syphilis in its early stages, for mercury is known to occasion both albuminuria and cylindruria. Aside from the presence of gummata and localized interstitial changes in the kidneys, there is as little characteristic in lesions of these organs produced by the disease as in the symptoms presented during lifetime.

W. Morres[30] reports the case of a 50-year-old woman without a specific his-

[26] Riv. d'Igiene e Med. Prat., April, '98.

[27] Annales des Mal. des Organes Genito-Urin., April, '98.

[28] N. Y. Med. Jour., August 6, '98.

[29] Jour. Cut. and Genito-Urin. Dis., p. 151, April, '97.

[30] Indiana Med. Jour., July, '97.

tory who consulted him for vesical hæmorrhage of a month's duration and growing more profuse. She had lost thirty pounds in weight and was unable to attend to household duties. Physical examination elicited nothing specially satisfactory except as to "saddle-nose" and old bronchitis. The urethra was patulous and in the left upper quadrant of the bladder was a point of special tenderness. The cystoscope showed the urine flowing into the viscus clear. Urinalysis showed no casts, the lesion evidently occupying the bladder. Various measures were tried to arrest the hæmorrhage, but relief was only temporary. After about a month a mass of tissue of the color and consistency of a small oyster was passed from the bladder with great pain. This, on examination, showed small round cells and fibrous tissue, but no evidence of papillomatous growth. The writer was satisfied he had to deal with a gumma of the bladder, and ordered Hardaway's mixture. The hæmorrhage rapidly subsided, but with any cessation of the medicine it would return, with pain at the close of micturition, as before. All urinary discomfort ceased after about two months.

M. Dieulafoy[31] says that syphilis of the stomach is not so rare as might be believed. The lesions present themselves under various forms; hæmorrhagic erosions, ecchymosis of the mucous membrane, gummous patches, etc. When the symptoms of ulcus simplex are observed in a syphilitic person it is natural to suppose the gastric lesion is of itself syphilitic. It should never be forgotten when in presence of gastric ulcer to look for syphilis in the antecedents of the patient and apply the treatment accordingly.

In syphilitic disease of the heart-wall Sidney Phillips[32] says that (1) syphilis may produce gummata or general fibroid change. 2. Gummata in the left ventricle, except of very small size, are dangerous to life, and when near the apex of the left ventricle may cause sudden death. 3. Gummata in the left ventricle may be suspected if in an individual with syphilitic antecedents there occur signs of derangement of the action of the left ventricle with symptoms of defective or embarrassed action, especially angina pectoris, tachycardia, syncopal or epileptiform attacks; or in the right ventricle when dyspnœa otherwise unaccountable occurs. 4. Extreme feebleness of the heart without dilatation, gradually increasing, in young or middle-aged persons who have had syphilis, suggests syphilitic disease on the right side of the heart. 5. Dilatation of either side of the heart in syphilitic persons may result from syphilitic fibrosis. 6. Hypertrophy of the heart without ascertainable cause and without corresponding increase in strength of heart suggests syphilis. 7. Aneurism of the heart-wall may result from syphilitic local lesions, and may be fatal with or without rupturing. 8. It is probable that gummata and fibroid disease in early stages may be relieved or cured by the usual specific treatment. There can be little doubt that syphilitic heart affections must affect the administration of anæsthetics, more especially as a life-long disease like syphilis is apt to produce local conditions that not infrequently require operative interference. Dr. Kirk found that chloroform is liable to give dangerous results in syphilitic subjects.

On hereditary syphilis W. W. Whitaker[33] remarks that the naso-pharyngeal mucous membrane is ever ready to be-

[31] Canada Lancet, August, '98.
[32] Lancet, Jan. 23, '97.
[33] Laryngoscope, Sept., '97.

come hyperæmic and respond quickly to such infections as pertussis, measles, scarlatina, etc. The fauces in primary syphilis present a characteristic redness. In hereditary syphilis, the same condition obtains, although less actively. The mucous membrane in children predisposed to congestion becomes infected quickly. The lymphatics bearing the infectious agents are stimulated, and the lymph-follicles receive more blood and become active in proliferation. Lymphatic hyperplasia becomes more general and the mucous membrane is invaded. The histological muciparous glands hypertrophy, and increased mucus results. The parts being congested, there is increased local temperature, which, together with the abnormal quantity of mucus, favors self-proliferation and degeneration. When these conditions are established early in life one has the "lymphatic diathesis," to which so much is owed for the many subsequent pathological conditions found in the throat. Gummatous deposits occur in the lymphatic bodies about the muciparous glands in the fauces, under the soft parts. Owing to the liberal distribution of these bodies, extensive areas may be invaded before the process of softening begins, which, when once established, spreads rapidly and causes extensive destruction. Throat symptoms may be anticipated, but seldom encountered until after the age of 5 years. Fortunately inherited laryngeal syphilis is not frequently encountered; but when it does come it is attended with grave conditions. In the very young the tendency to œdema, or laryngismus, may be brought into activity by exposure to cold or some other exciting influences.

V. Dühring[34] states that healthy children born of syphilitic parents either possess an immunity against syphilis of shorter or longer duration or show parasyphilitic manifestations, such as defective development, malformation, etc., or develop about puberty the syphilitic lesions known as late genuine hereditary syphilis. This immunity is known not to be permanent. A set of cases were observed in which there existed proof of hereditary syphilis in the third generation. In malignant syphilis tertiary manifestations are often seen in the early stages of the disease; that is, along with a severe infection there is a pronounced intoxication. This explains how tertiary syphilis may appear to be infective. The appearance of hereditary syphilis in the third generation is due to malignancy.

Diagnosis.—C. F. Marshall[35] says many apparently "soft sores" are followed by secondary syphilis, especially in females, among whom the typical indurated chancre is much less common than in males. Again, a soft sore appearing a few days after connection may, after a few weeks, become indurated, owing to double inoculation. Distinctly hard and enlarged glands combined with much induration of the primary sore are almost diagnostic, but the so-called "shotty glands" are very deceptive, and may be felt in many persons after herpes preputialis, or simple inflammation of the smegma-glands of the penis.

According to Marshall,[36] it sometimes happens that a patient with some simple skin affection, such as eczema or psoriasis, contracts syphilis. In such cases the resulting secondary syphilide becomes mixed with and modifies the nature of the simple skin affection, so much so that diagnosis is often difficult, and depends mainly on the results of treatment. A mixed eruption of this kind will become

[34] Deutsche med. Woch., March 25, '97.
[35] Treatment, May 27, '97.
[36] Treatment, July 28, '98.

differentiated under antisyphilitic treatment, bringing to view the simple skin affection.

E. G. Janeway[37] has observed a number of cases showing danger of error in diagnosis between chronic syphilitic fever and tuberculosis. One was that of a young man who had been sent to a sanitarium for consumption. He continued to grow worse and an examination by the author revealed syphilis. No tuberculous symptoms could be found, and hepatitis had been the cause of his ill health. He promptly recovered under appropriate treatment.

Etiology.—Winkler,[38] while examining microscopically the sperm of a syphlitic patient, has observed round, peculiar elements which are not to be found in the sperm of healthy subjects. Wondering whether these elements are not connected with syphilis, he has examined a certain number of syphilitic neoformations and of ganglions, by means of a special method of staining (formol, carbolthionine); he obtained the same result. Between the leucocytes in his preparations have been seen some round elements, stained deep violet red, the diameter of which is about a third that of a white blood-cell. They sometimes form groups of two; more often they are isolated. They do not appear to be nucleated. In normal tissues the author has found nothing of the kind.

Niessen[39] has obtained from syphilitic tissues, and especially from the blood, pure culture micro-organisms which, when inoculated into animals, present a reaction to human syphilis. When these cultures were injected into the veins of pigs, or inserted subcutaneously, there developed at the point of injection a hard inactive sore, and eight or ten days after the injection there appeared on the skin of the animal numerous bright-red spots which disappeared after about a week. Rabbits developed at the site of injection similar hard sores. Two of these rabbits were paired, and the female gave birth to a litter of seven, all dead, and two of them, being macerated, greatly resembled in this respect syphilitic human embryos. The author obtained his cultures especially from the marrow and epiphyseal lines of the bones of children who had died from hereditary syphilis. The material was preserved in bouillon, and then grown in various media. He found in almost every instance a variety of streptobacilli or streptococci which he had previously obtained from the blood of patients suffering from dementia paralytica and tabes syphilitica. The bacilli can best be obtained from the blood, after the administration of mercury for a short time during the tertiary period. In the secondary period he had less success in obtaining germs from the blood, which he thought was due to the fact that at this period they lie chiefly in the skin.

J. G. Adami[40] claims that it is not necessary to have any recognizable first stage of cutaneous chancre. In the female the absence of any superficial or recognizable first stage is especially noticeable; time after time the disease only manifests itself in the secondary stage. The "fixed idea" that there must be a chancre developed at the region of primary infection has led to a thorough and general misunderstanding as to the nature of congenital syphilis. It is a popular fallacy to regard a considerable number of cases, in which the father of

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[37] Maryland Med. Jour., vol. xxxix, No. 6, p. 574.

[38] Wiener klin. Woch., No. 17, '97.

[39] Centralb. f. innere Med., May 7, '98.

[40] Canadian Bract., July, '98.

syphilitic offspring is syphilitic and the mother is apparently free from the disease, as due to the sperm being syphilized, or, if this view be carried to its logical conclusion, it is supposed that the spermatozoön bears with it the syphilitic virus, be it bacillus or whatever the nature of the specific microbe, and introduces it into the ovum at the moment of conception, and thus the offspring develops, syphilized from the start, the mother being and remaining absolutely free from taint. But it is incredible that the germ gain entrance into the spermatozoön, for the spermatozoön being nucleus and flagellum, and scarce anything more, has not the means of ingesting foreign bodies, while we have not a shred of evidence that the syphilitic germ is amœboid and capable of making its way into the spermatozoön. If the syphilitic virus gained entry into the unsegmented human ovum, its effects would surely be to lead to the destruction of the ovum. Fœtal syphilis must originate at a later date, and although syphilis in the parents may doubtless have its effects upon the ovum and spermatozoa of the same, and lead to constitutional disturbances in the offspring, progressive syphilitic lesions, the true syphilomata, in the fœtus and infant are *not* inherited, but are congenital; that is to say, acquired in utero after conception. If the mother be without sign of syphilis, and the child be syphilitic, the only satisfactory explanation is that the syphilitic virus has entered into the maternal organism and tissues, and has failed to induce any characteristic lesion at the point of entry, but has, nevertheless, through the placenta and chorionic villi gained an entrance into the fœtal tissues; the process arrested in the mother has been developed in the susceptible tissues of the child, and we have here an interesting example of the variability in the manifestations of the disease dependent upon the reactive powers of the tissues. Were any further word necessary in support of this contention it would be found in the significant way in which the liver is affected in congenital syphilis. Extensive specific lesions of the liver in the acquired disease are relatively uncommon. They are the most common of all lesions in the congenital affection. Were the ovum infected it would be difficult to explain why the liver should thus be specially singled out. This organ is the first to receive the blood coming by the umbilical vein; then, if the infection originates from the placenta, hepatic implication is the natural sequence. The essential difference between such congenital, or antenatal, and "acquired," or post-natal, syphilis is that in the former the virus passes immediately into the blood, and so becomes disseminated through the organism, while in the latter the dissemination is delayed. The second stage of acquired syphilis is the first stage of the congenital disease.

M. Delore[41] presented to the Medical Society of Lyons a placenta from a seven months' pregnancy, weighing nine hundred grammes, while the child weighed sixteen hundred. It showed syphilitic gummata, and a greater number of the villosities were obliterated. The child showed superficially confluent petechiæ.

Prognosis.—Krauss[42] believes that specific meningo-encephalitis and gummata, if small and located in the meninges, offer a very fair prognosis, dependent upon the thoroughness and audacity of the treatment; while complete or even partial recovery is extremely doubtful in

[41] Lyon Méd., July 10, '98.

[42] Alienist and Neurol., Jan., '97.

all cases where the brain-substance has been infringed upon, or where embolism or thrombosis or other sequelæ of endarteritis exist.

Campana[43] concludes that it is not easy to define the duration of contagion, but in any case it is probably longer than is commonly taught; even tertiary gummatous manifestations may be contagious at the beginning. The duration is in relation to the duration of vascular irritative manifestations, and in proportion to these. As long as there are any papular exudative manifestations, contagion certainly exists.

Treatment. — Troisfontaines[44] draws attention to the extreme importance of feeding with sterilized milk in cases of inherited specific disease, more particularly in those cases in which birth takes place before term.

In the treatment of hereditary syphilis in children[45] the following methods are recommended for a child 6 weeks old: Twenty drops of Van Swieten's liquid (corrosive chloride of mercury, 2 grains; alcohol, 3 drachms; and distilled water, sufficient to make 4 ounces) four times a day, and at the same time inunction with $^1/_2$ to 2 grammes of mercurial ointment. The inunction must be made in those parts which do not absorb too readily, and which are not too thickly covered with hair. The inunction should be made at night, and the parts covered with cotton. The child should also be bathed twice a week in starch-water. This treatment to be continued without interruption for five or six months, increasing or decreasing the doses only as needed. One-quarter, $^1/_3$, or $^1/_2$ teaspoonful of Gilbert's syrup (hydrarg. biniodide, 3 grains; potass. iodid., 102 grains; water, 3 drachms and syrup, q. s. ad. 10 ounces) should be administered four or five times a day in a bottle of water. The following prescriptions are given for sublimate baths, which should, however, be avoided when ulcerative affections are present:—

℞ Hydrarg. bichlor. corros, 45 grains.
Alcohol, 7 $^1/_2$ ounces.
Ft. sol.
Sig.: To be aded to a bath; or

℞ Hydrarg. bichlor. corr, 1 drachm.
Ammon. mur., 1 $^1/_2$ drachms.
Aquæ, 5 pints.
Mix. ft. sol.
Sig.: For a bath of ten minutes' duration (every second day).

When the slightest intestinal irritation is observed the baths are to be omitted; and if diarrhœa continues the mercury by the mouth must also cease. The inunctions should, however, be continued.

Manassein[46] says that the living uninjured skin of mammals is impermeable for salves with the usual inunction methods. With the usual inunction methods, salves may penetrate to varying depths into the hair follicles.

Buret[47] draws attention to the value of local application of mercurial ointments in localized chronic cutaneous syphilides.

Cartier[48] makes use of the following formula: Corrosive mercuric chloride, 1: sodium chloride, 3; distilled water, 20; in dose of nearly 1 grain of the drug, which is injected into the retro-trochanteric region. This has not caused even the smallest abscess, although severe pain may occasionally be met with. Intramuscular injection should be the

[43] Il Policlinico, July, '97.
[44] Jour. de Méd., March 25, '97.
[45] Pediatrics, August 15, '97.
[46] Archiv f. Dermat. u. Syphilis, B. 38, H. 3.
[47] France Med., July 30, '97.
[48] Revue de Thér. Medico-Chir., No. 11, p. 361, '97.

treatment of choice in that there is introduced into the organism a known amount of the drug in a condition to be fully utilized. The syphilitic manifestations yield rapidly, not only in severe cases, but in facial manifestations. The injections should be repeated every eight days, exceptionally in five, and four injections are sufficient to relieve the patient of contagious lesions, and six or eight for serious conditions.

E. Lang[49] claims that subcutaneous injections are more reliable than any other method, and can be graduated to the case. The selection of the preparation is of great importance and requires discrimination, but the chief point is to limit the mercury and not administer too much. The mercurialization must be mild. Inunctions and injections with full doses do more harm than good. The eruptions may be postponed, but the later manifestations are inevitably more severe and prove unusually obstinate. A mild preventative mercurial treatment, combined with a rational mode of life and observation of hygienic measures, is one of the most precious therapeutic measures in our possession.

According to Dabney,[50] the *modus operandi* of treatment of syphilis by the hypodermic injection of bichloride of mercury is as follows: First, care must be taken to avoid all joints, glands, and blood-vessels. The best sites for the injection are the chest-walls, back, gluteal region, and the upper and outer portions of the arms. The site chosen should be well soaped (green soap) and washed and dried, then rubbed briskly for a few seconds with alcohol. The needle and syringe should be immersed in hot water before each injection. The needle should then be plunged quickly through the skin and well into the cellular tissue, care being taken to avoid invading adipose or muscular tissue (though some authorities advise deep muscular injection). The injection should be very slowly made, care being taken not to use too much force. As soon as the bichloride solution comes in contact with the albuminous serum, the soluble mercuric chloride immediately becomes the albuminate, which is not very soluble, and herein lies the efficacy and safety of these large doses of this highly-corrosive poison. One of the most striking effects of the hypodermic injection of the bichloride is the way it tones up old, broken-down syphilitics. This treatment does not entirely do away with the iodide of potash, which may be used in conjunction with the injections, especially where the throat, brain, or spine are involved. Wherever mucous patches occur the solid argentic nitrate should be applied.

Lukasiewicz[51] gives the results of treatment of five hundred cases by intramuscular injection of a 5-per-cent. solution of perchloride of mercury, 1 centimetre being injected into the gluteal muscles once a week. On an average, six injections were used for each patient. The cases included all stages of syphilis in both males and females, varying in age from 16 to 65 years. Severe secondary lesions, including rupia, iritis, periostitis, choroidoretinitis, and laryngitis yield to this form of treatment, also early tertiary conditions, such as cutaneous gummata. A peculiar phenomenon appears after the first injection: namely, an increased distinctness of the syphilitic rash, and the author compares this to the reaction which follows the injection of Koch's tuberculin.

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[49] Wiener klin. Rundschau, Jan. 3, '97.

[50] New Orleans Med. and Surg. Jour., April, '97.

[51] Wien. klin. Woch., April 22, '97.

Whitla[52] regards mercury as a vital antidote to the syphilitic poison, and so long as the virus of syphilis remains in the organism mercury will expend its force upon it without injury to the patient. This gives a working hypothesis as regards usage. The inutility of iodides in the first and early second stages is emphasized. The continuous method of administering mercury favored by the writer. Small doses should be prescribed as early as possible. Routine treatment deprecated. As a guide determining the effect of the mercury, the weight-chart is strongly recommended. The whole secret of success in the treatment of syphilis is to get as much mercury into the system as possible without producing ill effects.

The general rule for treatment, according to C. F. Marshall,[53] should be not to treat any primary sore (in the absence of secondary manifestations) with mercury, unless it is a typically-indurated sore with hard and enlarged glands in the groin.

The best two forms of treatment during active secondary syphilis are: intramuscular injections and inunction.

The best form of mercury is the double chloride of mercury ammonia (salalembroth). Ten minims of this (containing $^1/_3$ grain of perchloride of mercury) is injected into the gluteus maximus once a week, by means of a platinum-iridium needle.

The best preparation to use for inunction is the unguentum hydrarg. cinereum (hydrarg., 1 part; olive-oil, $^1/_2$ part). About $^1/_2$ drachm of this is rubbed daily into the skin. The rubbing should be continued for twenty minutes at a time, and different parts of the body used alternately. A warm bath should be taken before each inunction.

Whichever treatment is used, it should be continued till all symptoms have disappeared. After this it is sufficient for the patient to take mercury in the form of pills, either a grain of hydrarg. cum creta ter die, or 2 grains of pil. hydrarg. bis die, combined with $^1/_8$ to $^1/_4$ grain of opium. These should be continued for a further period of twelve to eighteen months, gradually reducing the frequency of the dose. Naphthol (2 to 4 drachms to 1 ounce of zinc oxide) is especially useful in ulcerating condylomata, and also in the treatment of primary ulcerating sores, hard or soft. The best treatment for all tertiary and rupial ulcers is a 2-per-cent. ointment of iodine made with lanolin and vaselin.

Jullien[54] has observed two cases of secondary syphilis treated by subcutaneous injections of ascitic fluid, taken from a syphilitis patient with cirrhosis of the liver. Precautions were taken to sterilize the fluid. The first patient received 93 cubic centimetres in fifteen injections, with no bad result. However, the effect on the disease was *nil*. The second patient received 520 grammes in 57 injections, increasing from 5 cubic centimetres to 40. All symptoms disappeared, and the patient gained 3 kilos in weight. No further symptoms have occurred up to the present time. No mercury at all was taken at any time.

Gilbert and Fournier[55] remark that the serum of animals naturally immune to syphilis appears to have no effect upon the course of the disease, and the same is true of the serum of tertiary syphilitics. The serum treatment causes improvement of general condition, disappearance of headache, and of pains in

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[52] British Medical Journal, Sept. 18, '97.
[53] Treatment, May 27, '97.
[54] Semaine Méd., March 16, '98.
[55] Medical Weekly, iii, 281, '95.

the bones and joints, and attenuation or even disappearance of the cutaneous and mucous lesions, but not constantly or invariably.

Justus,[56] after examining three hundred patients, concludes that syphilis in the acute stage destroys the hæmoglobin, more or less, and this loss is made up as the disease undergoes spontaneous cure. The same diminution in hæmoglobin occurs after the administration of mercury, and varies according to the amount of mercury employed. The hæmoglobin is restored, sooner or later, according to the severity of the symptoms. It may again sink after repetition of the administration, but if treatment is continued it ultimately reaches a higher level than before treatment was begun. When the hæmoglobin ceases to sink after repetition of the drug, the syphilitic manifestations remit. This sinking after the administration of mercury is a specific phenomenon, and is not observed in the blood of healthy persons, nor in other diseases. This characteristic reaction is observed in early secondary and all subsequent stages. It disappears when the signs of syphilis show remission, but reappears during every relapse.

In a young and vigorous subject with a good digestion, Fournier[57] recommends ingestion by the mouth as being the simplest and most convenient, unless contra-indicated by other indications. In a dyspeptic subject of feeble digestive powers ingestion by the mouth is not good. One of the other methods should be used. If the patient has bad teeth, with chronically-inflamed gums, inunction is contra-indicated, because it is the remedy most liable to cause stomatitis. In such a case the method least liable to damage the gums is ingestion by the mouth. Social convenience may modify the choice of treatment. For instance, ingestions should be avoided in people who have to be on their legs most of the day. Again, if the disease is to be kept secret, inunction is out of the question.

Roughly speaking, one may say ingestion for cases of normal syphilis, inunction for severe cases, injection for the worst cases.

An active method is necessary in all cases with grave symptoms, or in specially-malignant types of syphilis. In all cases of iritis, tubercular syphilides, ulceration of the throat, leucoplakia of the tongue, etc., a rapid method is required, viz.: inunction or injection. Injections of calomel are indicated in ulcerating tubercular syphilides and gummata, in phagedenic chancre, in gummatous laryngitis, and in malignant types of the disease.

If the patient has benefited in former manifestations of the disease by a particular method, it is good to repeat this unless contra-indicated in other ways. If other drugs are to be given, such as iron and arsenic for anæmia, or cod-liver-oil, etc., for scrofula, inunctions or injections to be used to avoid the digestive organs.

With regard to the prolonged treatment necessary to combat the syphilitic diathesis, the only good treatment is ingestion by the mouth.

A given manifestation of syphilis will be more amenable to one kind of treatment than to another; this the author names empiricism.

For instance, it is common after several years for syphilitic patients to suffer from slight erosion of the tongue, desquamative glossitis, etc. These cases are very rebellious to inunction or in-

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[56] Brit. Jour. Dermat., Feb. and March, '97.
[57] Semaine Méd., June 30, '97.

gestion, but clear up rapidly and often permanently under calomel injections. Again, empiricism shows us that inunction is better for hyperplastic glottis, for old tubercular syphilides, tertiary visceral conditions, etc. Inunction is also better in pregnant women and infants.

Colombini and Gerulli[58] find that iodide of potassium given by the stomach before any other drug, and in the early stage of syphilitic infection, causes an increase in the number of red corpuscles and in the quantity of hæmoglobin. If the administration is continued, sometimes a diminution of the red corpuscles, followed by a progressive and continuous increase, occurs. Sometimes the increase is continuous, and not interrupted by a decrease. When the iodide is stopped the red corpuscles and hæmoglobin tend at first to diminish, but afterward start afresh to increase. At the same time there is a notable and constant increase in body-weight. The authors attribute the beneficial results of treatment to a specific action of the iodide upon the syphilitic virus. They believe that iodide of potassium in moderate doses, and over a moderate time, is the best remedy for the severe forms of chloranæmia due to syphilis.

Cooper[59] states that he has met at various times a certain number of cases of tertiary syphilitic ulceration which ran a very rapid course, the destruction of tissue being produced by phagedenic inflammation. This phagedenic inflammation cannot be deemed as solely due to the syphilitic poison, and it is very probable that other factors contribute to its production. Where the phagedena attacks the penis, the body, or the limbs, and the face remains free, one of the best modes of treatment consists in the continual warm-bath treatment; but where the nose is affected this method is obviously inapplicable. The writer has been in the habit of prescribing in these cases a course of Zittmann's treatment, it being the best remedy for arresting the rapid destructive process of syphilitic phagedena. Under this course the destruction of tissue is rapidly stayed, the wound becomes healthy, and cicatrization of it promptly follows. The course of treatment extends to a fortnight, during which time the patient is put upon a strict diet and regimen. The decoctions and pills are made from the following formula:—

ZITTMANN'S DECOCTION, No. 1.

℞ Rad. sarsæ. cont., 4 ounces.
Sem. anisi,
Sem. fœniculi, of each, 1 drachm, 1 scruple.
Fol. senna, 1 ounce.
Rad. glycyrrh. contus., 4 drachms.

And in a linen bag:—

Sacchar. alb.,
Alum. sulph., of each, 2 drachms.
Hydrarg. subchlor., 1 drachm, 1 scruple.
Hydrarg. bisulph, rub., 1 scruple.
Aquæ Cong., 6 pints.

Boil gently down to one gallon, strain, and put into four forty-ounce bottles. Label "The Strong Decoction."

ZITTMANN'S DECOCTION, No. 2.

To the dregs from No. 1 decoction add:—

Rad. sarsæ. cont., 2 ounces.
Cort. lemon.,
Sem. cardam.,
Rad. glycyrrh., of each, 1 drachm.
Aquæ Cong., 6 pints.

[58] British Medical Journal, June 26, '97.
[59] Treatment, April 8, '97.

Boil gently down to one gallon, strain, and put into four forty-ounce bottles. Label "The Weak Decoction."

℞ Hydrarg. subchlor., 2 grains.
Ext. coloc. co., 5 grains.
Ext. hyoscyami, 2 grains.
Ft. pil. 2. Label "The Pills."

The patient is kept in a room at 80° F. The diet consists of: Breakfast—Boiled egg and bacon, tea; no sugar or spices. Lunch—Butcher's meat, vegetables; no fruit. Dinner—Soup, fish, poultry.

The evening before beginning the treatment the two pills are taken, and the next four days, at 9 A.M., 10 A.M., 11 A.M., and 12 M., half a pint of the strong decoction drunk very hot.

At 3 P.M., 4 P.M., 5 P.M., and 6 P.M., half a pint of the weak decoction cold. The patient is kept in bed, except for one hour every evening. On the fifth day he is allowed to get up; he may have a hot bath, and dress, and is allowed, if he asks for it, a little brandy or whisky and soda. In the evening 2 pills are administered, the patient starting the decoctions the next day as before. So the treatment goes on until the fifteenth day, when it is discontinued.

Lyman Ware[60] has not seen a single case of syphilitic neuroretinitis following thorough and prolonged antisyphilitic treatment. It never terminates in spontaneous recovery. Without treatment it is sure to end fatally. Large doses of potassium iodide are of value in arresting the disease in some severe and dangerous cases, but they do not compare with mercury in eradicating the syphilitic poison. The manner in which the mercury should be used is of secondary importance. For years the author relied mainly on inunctions, but recently has resorted to hypodermic injections of the preparation proposed by Althaus, which consists of metallic mercury, 1 part; lanolin, 4 parts; carbolic oil (2 per cent.), 5 parts. The usual dose, 5 minims, may be gradually increased to 10, giving an injection once a week, in the region of the glutei muscles.

Fruitnight[61] thinks that if a syphilitic woman becomes pregnant she should at once be placed upon specific treatment, and thus probably secure the escape of the fœtus from the threatened infection. Treatment should be pushed vigorously up to the labor. When it is known that either one or both parents are syphilitic, procreation should be forbidden for a period of at least two years, during which active treatment should be instituted. Then, after six months have elapsed without treatment and with no manifestations of the disease, procreation may be permitted. When there is a reasonable suspicion of the disease in an infant treatment should be begun immediately after birth and vigorously continued. The remedy *par excellence* is mercury. In young infants the best method of treatment is that by inunction. The place of inunction should be changed from day to day. A convenient way of using this method is to place a piece of the ointment on the belly-band, and by the movements of the child and the ensuing friction it is easily rubbed into the skin. The officinal blue ointment is used in this way, but it must be diluted according to the age of the infant. If the symptoms be urgent, or if it be desired to bring the system more rapidly under the influence of the mercury, calomel should be given in doses of $^1/_{10}$ of a grain four times daily. The treatment with mercury should be con-

[60] Archives of Ophth., p. 345, '97.
[61] Medical News, July 30, '98.

tinued for at least one year. During the last half of the year the amount per day can be reduced by one-half or by one-third. If the mercurial treatment be persisted in for a longer period than one year it will be advisable to interrupt its administration occasionally. Salivation is very rare indeed. The symptom which would indicate that the child is becoming profoundly affected by the drug is the occurrence of pronounced anæmia. If the symptoms resemble those of the tertiary stage in the adult the iodide of potassium may be given, from 20 grains to 2 drachms *per diem*, according to the age of the child and the severity of the case, and, of course, largely diluted. In conjunction with the specific treatment, the tonic treatment is of the utmost importance. Among the remedies to be employed cod-liver-oil, iron, arsenic, and nux vomica hold a prominent place. The local lesions of hereditary infantile syphilis will demand the same treatment which is given such lesions in the acquired variety of the disease, whether in the adult or infant, the strength of the remedies employed always being adapted to the age of the patient.

Ramón Guitéras[62] says that almost every case of common chancre or initial lesion is generally of the form of a simple erosion or ulceration. If the former, the patient is directed to wash it two or three times a day, and to dust on a mild antiseptic powder, consisting of boric acid, bismuth subnitrate, and calomel, equal parts, and afterward to put on a thin layer of absorbent cotton to absorb any discharge. This powder is very satisfactory when the lesion is situated on the glands or on either side of a retractible prepuce or on the body of the organ. If this does not have a curative effect in a few days, a wet dressing of black-wash should be used. If it is the ulcerating form, it should first be cauterized with a saturated solution of silver nitrate, and then dressed in a similar manner with the powder mentioned. If it is the dry, scalding papule, a wet dressing of black-wash is best. A thin film of cotton spread over the lesion and kept moist by pouring this solution upon it is usually sufficient. In subpreputial lesions the method first to be tried is that of a subpreputial astringent or antiseptic injection. This should be given every three or four hours, after first injecting plain water to cleanse the parts. The materials usually used are a weak solution of carbolic acid (1:250) or of mercuric chloride (1:10,000), or black-wash. If, however, under such treatment, the condition seems to grow worse, a dorsal incision should be made through the entire thickness of the prepuce, and, after thorough bichloride irrigation, the lesion should be cauterized, and then treated by local application of a powder or solution and absorbent cotton, as mentioned. This should be followed later on by a circumcision. In chancre of the meatus a solution seems to produce the best results. Lotio nigra should be kept in constant relation to the lesion by means of an absorbent-cotton plug saturated with it, a fresh one to be inserted after each act of micturition. In addition to this, an alkaline solution or a urinary antiseptic should be given internally to render the urine less irritating. Extragenital chancres are treated in the same manner as those on the genitals: *i.e.*, cauterized when necessary, and treated with mild antiseptic or astringent washes or powders. The author does not think it wise to give mercury in the first stage, excepting in

[62] Indian Lancet, June 6, '98.

certain cases where diagnosis is absolutely sure. It is advisable when the initial lesion may do harm to the patient or to others, as in chancre of the lip, finger, nipple, etc.; when there is extensive tissue-ulceration; or when certain disagreeable symptoms, forerunners of the second stage, have appeared, as intense headache or pains in the bones. The favorite preparation in the second stage is the protiodide. It is given in pill form, the strength usually being $^1/_6$ grain. A good method of increasing the strength is that advocated by Dr. Keyes, which is practically as follows: 1 t. i. d. for the first three days; 1 night and morning, and 2 at noon for the next 3 days; then 2 night and morning and 1 at noon for 3 days; and afterward t. i. d. for another 3 days; then 7 a day, increasing in the same manner; then 8; then 9; and so on until the symptoms of mercurial saturation begin to show themselves, such as colicky pains, diarrhœa, sore mouth, foul breath, etc., etc. When this point has been reached the same strength may be maintained, and the symptoms relieved by taking, in addition, a small amount of Dover's powder or some other opiate three times a day. If symptoms of salivation occur, it is a sign that the patient has taken too much mercury and it should be stopped. It is always well to instruct the patients to be on their guard against salivation, to keep their teeth clean, and every morning on arising to click them together, and in case the gums or teeth feel sore to immediately leave off the medicine. It is well to have the teeth put in order thoroughly before beginning treatment; to brush them after each meal and on arising and retiring, each brushing to be followed by rinsing out the mouth with listerin or borin diluted with 4 parts of water. The author does not believe in giving an opiate to counteract the intestinal symptoms of large doses of mercury, as it is likely to create in the patient the opium-habit, and it should never be used until other preparations have been tried which may, perhaps, be tolerated. The patient's condition may often be improved wonderfully in cases of diarrhœa by giving iron in connection with the mercury. Atropine, belladonna, and hyoscyamus also seem to prevent certain symptoms of mercurial poisoning. If the patient cannot stand 9 grains of the protiodide a day, it is much better to try some other preparations. It is well to have the patient on the largest dose that can be agreeably borne, so long as the active symptoms of syphilis are present, and then to fall back to $^3/_4$ of this dose, and to continue on the $^3/_4$ allowance until active symptoms reappear, when the patient should again be put upon the full dose and kept upon it during their activity, when the dose can again be dropped to $^3/_4$. If the protiodide cannot be well borne, the author knows no better salt to try next in order than the tannate. This may be given in pills of $^1/_2$ to 1 grain in strength, and may at times be increased until the patient is taking 5 grains a day. This form seems to be well tolerated, and the patient obtains more mercury than by taking the protiodide. The pills are ordered as follows:—

℞ Pil. hydrarg. tannici oxydulat., of each, $^1/_2$ grain.

Sig.: One three times a day, and increased as directed.

Inunctions of mercurial ointment are good for severe cases, and when salts of mercury cannot be well borne when given internally. From 20 to 60 grains may be used at each treatment, and

should be rubbed in as follows: The first day, on the inner side of the legs; the second day, on the inner side of the thighs; the third day, in the iliac regions; the fourth day, over the sides of the chest; the fifth day, over the inside of the upper arms; the sixth day, over the flexor surfaces of the forearms; the seventh day, rest. These should be taken at night before retiring; a bland ointment may be applied after each inunction. Woolen clothing should be worn during a course of inunctions. Symptoms of salivation should be watched for during this treatment, as it is liable to come on very suddenly. Fumigations are very efficacious if one wishes to produce a very rapid effect, especially in late secondary lesions. Here calomel is used, from 20 to 60 grains at each sitting. The patient is seated in a chair, with a covering or blanket extending from his neck over himself and the chair to the floor. The calomel in the pan beneath is then heated, and he is subjected to the fumes for from twenty to thirty minutes. Hot baths have no specific effect on syphilis, but they are good as a measure of hydrotherapy, and mercury by inunction is better absorbed. Occasionally on the forehead there are a number of lenticular papular lesions forming a corona veneris. In this case it will be well to apply the ammoniate-of-mercury ointment on a piece of sheet lint on retiring and to allow it to remain on over night. Ecthymatous, impetiginous, and pustulo-crustaceous syphilides are also benefited by the same applications. Palmar syphilides may also be treated by the white-precipitate ointment alone, or mixed with equal parts of the zinc-oxide or boric-acid ointment. In onychia and paronchia the ammoniate of mercury should be applied locally, and a glove-finger worn over the parts for protection. Moist papules about the genitals are best treated by the powder of bismuth boric acid and calomel, with a dressing of absorbent cotton to keep them dry. In case of mucous patches in a man's mouth, his tobacco should be cut off, and he should use a mouth-wash of 1: 2000 bichloride solution in peppermint-water four or five times a day, in addition to which an application to the patches should be made every three or four days with a one-in-eight solution of silver nitrate, or 4 per cent. chromic-acid solution. The best way of doing this is by twisting a thin film of absorbent cotton about the end of an applicator or a tooth-pick and then moistening it in the solution, when it is applied to the mucous patch until this becomes whitened. In syphilitic alopecia the head should be washed night and morning with a 1: 1000 solution of bichloride, or an ointment of ammoniate of mercury and boric acid may be applied. Throughout the second stage the patient should be kept in the best possible health. He should have plenty of plain food, fresh air, and exercise. Stimulants can be indulged in if well tolerated, but should be limited to light wines with the meals, spirit being strictly interdicted. Smoking in moderation may be allowed if it does not irritate the mouth and cause mucous patches. Sexual intercourse should be forbidden until all active symptoms of the disease have disappeared. It is the writer's custom to give mercury for one year and then to change it to mixed treatment, which is continued for another year, $^1/_6$ grain of biniodide of mercury and from 3 to 7 $^1/_2$ of potassium iodide in the compound syrup of sarsaparilla being given. After the two years of treatment have been completed, patients are recommended to

take mixed treatment for a period of six weeks every spring and fall for two or three years. In the secondary stage of syphilis potassium iodide should not be given, excepting in precocious cases in cachectic subjects when dangerous symptoms, such as those of the nervous system depending upon central gummatous deposits, have appeared, or when from similar lesions a destructive process has started in the respiratory or genito-urinary tract or elsewhere. In the ordinary cases of tertiary syphilis good results are obtained by giving the "mixed treatment" internally and using mercurial ointment externally, and it is only when some serious or active process takes place that it is necessary to give the very large doses of iodide. Potassium iodide, a grain to the drop, may be given in water or milk with the compound sarsaparilla or syrup of orange-peel, and may in some cases be run up to 200 grains a day, which is usually sufficient to control any active tertiary lesion. As high as 800 grains of this salt have been given. Some say that this should be taken on an empty stomach, but the presence of a little food does no harm. The conditions which indicate the use of iodide are an excess of cell-growth and an accumulation of the same.

Cyclopædia of Current Literature.

DIARRHŒA, CHRONIC.

Etiology.—Among the causes of diarrhœa the different conditions of the stomach that give rise to abnormal intestinal fermentation and irritation are of the utmost importance.

The causes of diarrhœa in cases presenting an absence of gastric secretion may be various. One of these causes is the precipitate manner in which the stomach propels its contents into the intestines. Sometimes the stomach is empty one hour after a meal.

Again, the chronic inflammation of the gastric mucosa may extend into the intestines and give rise to diarrhœa from chronic catarrhal enteritis, or the intestine may simply rebel from overtaxation, or the diarrhœa may be the result of intestinal irritation from unusual toxic substances developed in the bowel. The diarrhœa differs in different cases. There are invariably several morning evacuations, and after the middle of the forenoon no further trouble in some cases; in others, the diarrhœa is post-prandial; in a third class there are many evacuations during the day, taking place irregularly. In some cases there is diarrhœa every day; while in others it is periodic, coming on suddenly, lasting a week or two, and then followed by constipation or by regular daily evacuations. In some cases there is a good deal of intestinal flatulency. Pain is not a common symptom in these diarrhœas. There is usually no elevation of temperature; the temperature is sometimes below normal. The appetite in some cases is voracious. The character of the stool varies. In some instances there is an abnormal amount of mucus. The discharges are frequent and watery. In some cases there may be constipation; but this is less common.

Treatment.—In the treatment of this intestinal affection hydrochloric acid is most efficacious; 20 to 30 drops of the dilute acid may be given after meals, and the dose repeated in an hour. Jaworski

says the acid is needed to develop the formation of pepsinogen in the gastric glandules. The acid is quickly neutralized and combined in these stomachs. In some cases its presence cannot be detected ten minutes after administration. Allen A. Jones (Boston Medical and Surgical Journal, August 4, '98).

DYSMENORRHŒA.

Etiology.—Dysmenorrhœa is caused, in a large number of cases, by a malformation of the uterus, to which must be added the thickening of the mucous membrane along with the congestion, which is natural when moderate in amount, at the time of the menstrual flow.

In a case of dysmenorrhœa with anteflexion, the bend *per se* is not alone the cause of pain. It is only when congestion, with its resultant thickening of the mucous membrane from simple turgescence, or that change which goes by the name of hyperplasia, supervenes, and we are face to face with a potential or actual organic stricture, that pain becomes a prominent symptom.

There is no pain at the beginning of menstruation beyond the backache, and it is not until one or more years have elapsed that the special pain begins, at first in a minor degree, but gradually increasing up to the age of maturity. The exception to this will be found in the case in which the patient happens to be the subject of catarrh when the menses first make their appearance.

The explanation is as follows: From the very beginning—assuming that there is no catarrh, and consequently no congestion—the flexion causes some retardation of the flow with no more pain than the ordinary backache, or a sense of weight in the pelvis; the frequent repetition leads by degrees to stasis of blood in the organ, and pain of a special character gradually comes on, yet varying from time to time, probably according to variations in the degree of congestion.

Flexion of the cervix proper causes only a minor degree of dysmenorrhœa, and it is only in cases of flexion at the site of the internal os that we meet with the more severe forms. In these cases the symptoms forcibly remind one of the first stage of labor, which is so often accompanied by vomiting.

The most extreme constriction of the external os does not cause dysmenorrhœa at all approaching in severity to that produced by constriction of the internal os.

Treatment. — Only three rational methods are recognized:—

1. Division of the cervix.
2. The stem-pessary.
3. Dilatation.

The operation involves the dominant idea that there is a stricture to be overcome, and that this stricture affects the internal os. No operation upon the external os can avail anything when the condition to be remedied has its site at the internal os.

The stem-pessary is of value. Its range of application, however, is limited; married life is a bar to its employment, and it can only be used in the unmarried or widowed subject. In several instances of patients contemplating marriage the writer advised the postponement of that proceeding, has caused the patient to wear a stem-pessary for from nine to twelve months, and removed the instrument a week or two before the event. In every case the dysmenorrhœa has been relieved, and the patients have subsequently become pregnant. The presence of a foreign body in the cervical canal causes dilatation of that canal

to an extent much beyond the size of the body that occupies it. Were it not so, the dysmenorrhœa would be aggravated rather than relieved by the treatment.

For the form of anteflexion associated with retroversion of the organ there is no other treatment that can be of any avail than that by the compound stem.

No one, who has had any appreciable amount of experience, believes that a vaginal pessary can beneficially affect an anteflexion of the uterus.

Gradual dilatation is simple, and is attended with so little danger that it may be done in one's consulting-room. The process is repeated as often as possible at intervals of three or four days before the next period comes on, and, if begun within a few days of the last period, temporary relief may be afforded in one intermenstrual interval. In a considerable proportion of cases it will be necessary, or at least advisable, to repeat the dilatation (at one sitting only) after a lapse of several months. By watching the case in this way a permanent cure may be affected. When congestion is well marked there will often be free bleeding; but this, as a rule, helps to diminish the congestion, with the aid of other means to that end. To secure a good result the dilatation should be repeated until blood is no longer drawn.

In the case of patients from a distance, and in the more severe cases when practicable, especially when congestion is a prominent feature, the patient should be confined to bed, the bougies passed every second or third day, and the instrument left in as long as the patient can bear it.

Rapid dilatation for dysmenorrhœa is not favorably regarded. G. Granville Bantock (British Gynæcological Journal, August, '98).

EUCAINE.

Eucaine considered the best local anæsthetic. Compared with cocaine, solutions of greater strength are required; but eucaine is far less poisonous, and stronger solutions may be safely employed. From 6- to 10-per-cent. solutions used, and in over fifty cases not a single instance of toxic symptoms noted. Injections of 5 grains of the hydrochlorate in one sitting is usually sufficient for an operation of considerable magnitude,—*e.g.*, herniotomy,—but as much as 9 grains may be used. The benumbing power of eucaine is quite as certain as of cocaine, without the prostration with cardiac failure, which often follows cocaine in smaller doses. Eucaine has a very persistent effect, and on the mucous membranes does not act quite so effectively as cocaine on mere contact. On this account, in operations on tissues covered by mucous membrane, a little cocaine solution may be first applied, and then the eucaine injected. If the operation is to be a severe one, or prolonged, the patient should be given a small dose of morphine a quarter of an hour before, for the effect on the mind. While the skin is perfectly anæsthetized, the tissues beneath it are not, and section of muscle causes a dull pain not hard to bear. Lilienthal (Annals of Surgery, May, '98).

GLANDULAR FEVER IN CHILDREN.

Symptoms.—Acute glandular condition in children observed which has hitherto been unrecognized. The illness commences suddenly in children between the ages of 2 and 4, with coated tongue, vomiting, headache, abdominal pain, and rapid rise of temperature. These symptoms are accompanied by tenderness in the anterior triangle of the neck, and by stiffness and pain on movement

of the head. There is usually pain on swallowing, but there is never, during the whole course of the illness, any pharyngitis or tonsillitis. Generally, two or three of the lymphatic glands, under the anterior edge of the sterno-mastoid, enlarge to the size of a walnut, and are acutely painful on pressure. They remain in this condition for two or three days, during which time the temperature continues to rise, sometimes reaching 104° F. Gradually the glandular enlargement subsides, till, by the end of two or three weeks, complete resolution takes place, suppuration never occurring. The temperature falls by lysis, accompanying the subsidence of the grandular swelling; almost invariably the glands attacked are those on the left side of the neck, but occasionally, after they have subsided, the glands on the right side become affected in an exactly-similar manner. In a large proportion of the cases there is a palpable enlargement of the spleen and liver. The enlargement of the gland is a distinctly idiopathic condition. The disease is sometimes mistaken for mumps on superficial examination, but the swelling in the cases described is confined to the glands under the sterno-mastoid, the parotid gland remaining quite unaffected. Pfeiffer (Jahrb. f. Kinderh. Leipzig, B. 29, S. 257, '98).

GOLF.

Golf combines exercise, pleasure, and fresh air without the risk of injury to heart, lungs, or nervous system of some other exercises in which there is high blood-pressure and arterial tension. The game is not contra-indicated in heart-lesions, arterial calcification, albuminuria, old age, childhood, and certain hysterical conditions which would be aggravated by such exercise as bicycling, swimming, horseback-riding, or by mountain-climbing. In all affections marked by slowing of oxidation, or in those consequent upon intoxication by the products of organic disassimilation, the game of golf is to be recommended as the best adjuvant method of bringing about a cure. The obesity and degeneration of middle age when the biceps has diminished and one's energy is wanting may be helped by devotion to golf. The further tendency of the exercise is to eliminate the so-called diathesis and thus do away with gout, lithæmia, headache, and dyspepsia; while its hygienic and therapeutic consequences are admissible in cardiac and pulmonary affections. Although moderation is advisable in such circumstances, there can be no doubt of the benefit derived in some cases of cough, nervous asthma, and in affections of the bladder and prostate. But it is pre-eminently in functional nervous disease that our great Anglo-Saxon game is to be recommended, both as prophylactic and curative. No exercise or recreation is better for the mentally overworked, the hysterical, the melancholic; none helps to preserve concerted action of the eye, brain and muscle, known as the psychological movement; none, perhaps, with the exception of swimming, gives one so good an appetite; and, as to insomnia, such a thing scarcely exists among the devotees of golf. Irving C. Rosse (Journal American Medical Association, August, '98).

HYPERTRICHOSIS.

Treatment. — Hypertrichosis may be successfully relieved by means of the Roentgen rays. In order to avoid the production of inflammation a current is used which does not exceed a maximum of 2 ampères, the maximum tension being 11 $^1/_2$ volts, and the source of the

light is placed at a distance of 20 to 25 centimetres from the skin which is to be subjected to the influence of the rays, which are not allowed to act for a longer period than ten minutes. (When it is desirable to produce inflammation for some therapeutic purpose $3\,^1/_2$ ampères, $12\,^3/_4$ volts, and a distance of 10 centimetres are employed.) The apparatus used is supplied by M. Kohl, in Chemnitz. In seven cases of epilation the best therapeutic results were obtained after seventeen to thirty sittings of short duration. In several of the cases it was noticed that from one to two days elapsed before the hair fell out. In several brunettes the hair became, before it fell out, snow-white. Eduard Schiff and Leopold Freund (Wien. med. Woch., Nos. 22 to 24, '98).

LACTOPHENIN AS HYPNOTIC.

Excellent hypnotic effects obtained with this drug in a long series of cases of insanity of various forms. From 1 to 3 grammes of lactophenin in 150 grammes of gum-arabic solution, taken an hour after the evening meal produced a deep and quiet sleep within half an hour; the patient awoke after from four to nine hours; no unpleasant after-effects were noted. The author states that the drug seems to exert no disturbing influence on the heart's action, and is therefore specially suited for the insane who are subject to cardiac or vascular affections, and lung and kidney diseases. In case of reduced effect through habitual use, a temporary change to some other hypnotic is advised. Christiani (Pharm. Centralhalle, August 25, '98).

MORPHINE POISONING.

Treatment.—Cocaine used in a case of morphine poisoning with success. The trial was made on account of the knowledge that opium and cocaine act very largely on the nervous centres, but in opposite directions. Thus, opium retards respiration, cocaine stimulates; opium slows the pulse, cocaine accelerates it; opium checks the secretions, except sweat, cocaine increases them; opium contracts, while cocaine dilates the pupils; opium produces sleep, cocaine wakefulness; opium retards peristalsis, cocaine increases it. The same opposing effects are noticed also in their action on the kidneys. The cocaine was given hypodermically in $^1/_4$-grain doses, given first with apomorphine and strychnia, and then with small doses of potassium permanganate. The injections were repeated two or three times, and recovery followed by the next day. C. W. Williams (Lancet, vol. xviii, p. 192. '98).

PROSTATITIS, CHRONIC CATARRHAL.

Diagnosis.—In the vast majority of cases catarrhal prostatitis occurs as a result of chronic posterior urethritis, the acini or follicles of the prostate becoming involved in a chronic catarrhal inflammation from extension of the same process from the mucous membrane of the deep urethra.

Among the more prominent clinical features of this affection are: 1. Prostatic discharge at the meatus upon waking in the morning. This condition is frequently mistaken for gleet; as a matter of fact, the discharge is distinctly different from that of true gleet, in that it is colorless, resembling glycerin in appearance, and does not stain the linen. Its presence at the meatus is probably due to an atonic condition of the compressor urethræ muscle, permitting some of the prostatic secretion contained in the follicles of the gland to enter the

anterior urethra. An examination of the first morning urine will positively settle the character of this discharge, the absence of clap-shreds in this urine proving conclusively that the discharge is entirely prostatic in character. 2. Prostatorrhœa: this condition is brought about by the overdistension of the glandular tubules with prostatic secretion. Its occurrence is noticed, as a general thing, at defacation, or at the close of urination, and in some few aggravated cases it appears after some unusual physical exertion. 3. Constant urethral pain, located either at the glans penis or in the perinenum, relieved temporarily by urination.

Another group of symptoms, causing much mental perturbation to these patients, is increased frequency of urination, associated with a forked or sprinkling stream, with perhaps some little dribbling. A rectal examination is essential in all cases where one is led to suspect the presence of catarrhal prostatitis. If the prostate be the seat of a chronic catarrhal inflammation, it will be found to be somewhat larger than normal, and soft to the touch; stripping the gland causes much pain, and is invariably followed by the appearance at the meatus of an abundant prostatic discharge, which upon microscopical examination is found to be made up of granular phosphates containing pus. H. M. Christian (Jour. Cutan. and Genito-Urin. Dis., August, '98).

PROTARGOL.

One of the latest preparations suggested for use in inflammatory affections of the urinary tract, and found by many to be of great service, is a silver combination with proteid—protargol. It is in the form of a fine, light-yellow powder, readily soluble, with a brown color, in distilled water (1 in 2), the solution being slightly alkaline in reaction, and giving a precipitate with hydrochloric acid, soluble in excess. Protargol is not simply a mixture of proteid and a silver salt, but a true chemical combination. It acts as a strong antiseptic, in 1.5-percent. solution, exerting a marked effect upon gonococci, while it does not irritate the tissues. Its mode of action is doubtful, but probably arises from dissociation of the silver salt from the proteid through the action of the bacteria, either from the acids formed by them or by their attacking the proteid moiety to succumb to its silver partner. Editorial (Edinburgh Medical Journal, July, '98).

PULMONARY TUBERCULOSIS.

Treatment. — The best beech-wood creasote can be given with benefit, in amounts varying from 120 to 240 minims daily, in cases of pulmonary tuberculosis; the drug is best administered in codliver-oil, or in spirituous solution, and in some cases the "creasote-chamber" or oro-nasal inhaler may be ordered in addition, with advantage. The dose should be small at first, but it can be rapidly increased to 40 minims, three times daily, for an adult. Large doses rarely cause any gastric disturbance; on the contrary, the appetite is frequently increased. The cough, expectoration, and night-sweats are diminished, and the physical signs improved. Owing to its disinfectant action in the alimentary canal, the drug probably diminishes the risk of tubercular enteritis by autoinfection when patients swallow their sputa; but, owing to the increased peristalsis, which is created by creasote, it is usually contra-indicated in cases where the ulceration is already advanced. The drug does not tend to cause hæmoptysis, but rather to prevent its recurrence.

Creasote does not irritate the normal mucous membrane of the genito-urinary tract. Tamplough (British Medical Journal, May 28, '98).

RECTAL PROLAPSE.

Treatment.—Child suffering from debility and chronic diarrhœa developed rectal prolapse, which, during twenty-four hours, increased to 10 centimetres. On account of complete paralysis of the sphincter and impossibility of retaining the reduced gut in position, the anus was temporarily closed with three catgut sutures and the diarrhœa treated with proper remedies. On the third day the sutures were removed, which action was followed by a slight prolapse. Plaster strips were thereupon substituted for the sutures, and later radial cauterizations of the anal mucosa resorted to. Complete recovery of child followed. O. Helms (Hospitalstidende, 1898, No. 24). [Report of Corr. Ed. Johnson, Copenhagen.]

SEROUS PLEURISY.

Treatment.—Eleven cases of serous pleurisy treated with a mixture of guaiacol, 1 part, and tincture of iodine, 4 parts, with favorable results. A drachm of this mixture was applied once daily to the affected side, which was then covered with wax-paper, cotton, and then with a bandage. Besides this treatment, the patients received only small doses of codeine of Dover's powder. In all cases the exudate became absorbed more quickly than was observed by the author under any other method of treatment. Neither objectively nor subjectively were there any disagreeable by-effects noticed; the irrigation of the skin was also insignificant. From five to seven guaiacol applications were required to cause a complete disappearance of the exudation. The temperature was taken before and after each aplication, and a fall of 0.4° to 3.5° F. was recorded. In cases with normal temperature the reduction was insignificant. The author believes that by irritating the peripheral nerve-endings the guaiacol acts on the thermal and vasomotor centres; hence the reduction in temperature and increased absorption-power of the pleura. Besides, it acts in the blood-current directly as an antiseptic. Prosorowsky (Meditzinskoje Obozrenije, No. 1, '98).

SOMATOSE.

Fifteen cases observed in which somatose was given to mothers whose supply of milk was failing. The result was good in those cases in which the somatose improved the appetite and general condition. Somatose, however, has no specific influence on the secretion of the mammary gland. Many women who are anxious to suckle their children are driven reluctantly to use the bottle, and in cases of this kind somatose is probably well worth trying. Joachim (Centralb. f. innere Med., March 12, '98).

SORE NIPPLES, THE PREVENTION OF.

The following method has proved unusually successful in the prevention of sore nipples:—

℞ Lanolin (Liebreich), 1 ounce.

Dispense in glass or porcelain screw-cap jar.

Sig.: For external use every night.

The patient is instructed to begin its use from four to six weeks before the expected date of confinement and continue until delivery. Every night at bedtime a small portion of lanolin is thoroughly worked into each nipple with the thumb and fingers, special pains being

taken to rub it well into any folds or crevices, especially in the case of depressed and sunken nipples.

In the morning it should be removed by a soft nail-brush, which is well soaked. The nipple should be brushed with lukewarm water and any mild, pure soap (preferably a white soap), giving it a thorough lathering for three or four minutes. It should afterward be rinsed with fresh water and dried as after ordinary bathing. All these agencies combined develop the cuticle, render it firm, elastic, and resisting, and produce a useful nipple, which may be almost guaranteed against subsequent abrasions and tenderness. J. Milton Mabbott (New York Medical Journal, Sept. 10, '98).

STARCH, SALIVARY DIGESTION OF.

Porridge with milk forms a more digestible compound, as far as amylolysis by saliva is concerned, than other combinations of oatmeal. The more dense, the less broken down, or the firmer the jelly in which the starchy food is when undergoing salivary digestion, the less rapid and extensive is the proteolysis. Some forms of starchy food undergo a certain amount of digestion by saliva; but at a certain stage this process stops, and, no matter how long they may be exposed to the action of ptyalin, no further amylolysis by saliva takes place (we must remember, however, the restraining effects which the products of digestion exert). Amylaceous substances are more easily acted on by saliva when thoroughly moist than when more or less dry. Bread in a light and spongy condition is more rapidly acted upon by saliva than when less spongy. Such bread, however, does not ultimately undergo any more complete digestion than does ordinary bread. Milk has a retarding influence on the salivary digestion of starch in bread, while broth has little or no effect. Tea has a markedly inhibitory influence on amylolysis by saliva. Coffee has this property also to a less extent. Cocoa has hardly any restraining effect. Beer promotes the salivary digestion of starch. Alcohol, even in dilute solution, retards salivary digestion of starch, but the action is much less marked than in the case of infusions of tea. Wines have a very marked inhibitory influence on the digestion of starch by saliva, and this is almost wholly due to their acidity. W. G. Aitchison Robertson (Jour. of Anat. and Phys., July, '98).

TYPHO-MALARIAL FEVER.

In India the combination of malarial infection with that of typhoid fever serves to obscure the early symptoms of typhoid, giving, in the majority of cases, a violent and sudden access, instead of the usual gradual step-like rise of the first three or four days. In such cases the plasmodium malariæ may be detected in the blood during the first week, and again during the first week of convalescence (Laveran), introducing the intermittent character so often seen at those stages of typhoid fever in India. Beyond giving rise to this increased difficulty in diagnosis and delaying convalescence, the moderate presence of the malarial habit has no appreciable effect on the progress of an ordinary case of typical typhoid. A. Crombie (British Medical Journal, Sept. 24, '98).

TYPHOID FEVER.

Treatment.—Calomel is an exceedingly valuable drug in the treatment of typhoid fever, being directel against the seat of the disease. Its use is free from danger. It is best employed in small doses given hourly without interruption until all the symptoms of the disease are

entirely controlled or until sore gums warn us to discontinue it. Large purgative doses may be indicated early in the disease to absorb or modify it, or at any time to dissipate symptoms of profound toxæmia. The course of typhoid fever is greatly shortened by the systematic administration of calomel, and its graver features avoided. Henry W. Bettman (Nashville Jour. Med. and Surg., July, '98).

UTERINE CARCINOMA.

Treatment.—In uterine carcinoma the necrotic *débris* should be thoroughly removed by curetting under anæsthesia till firm tissue is reached. Hæmorrhage from arterial twigs is often checked by the use of the Paquelin cautery. Free irrigation with very hot water is then used to check the oozing, if necessary. It is desirable to have the seat of the operation as dry as possible before using carbide of calcium. Into the cavity which extends to a greater or less extent up into the body of the uterus, a piece of carbide, about the size of the last phalanx of one's thumb, is placed. At once acetylene-gas is evolved, which quickly fills the entire cavity with a froth, like soap-bubbles. The cavity is at once packed firmly with iodoform gauze. The vagina is packed full of the same material down to its ostium. The patient is then put to bed for three days, when the gauze and the carbide-remains are removed and a new piece is used. The carbide-remains are naught but a grayish clay covering the cavity in the body of the uterus. It can be sponged and irrigated away in a few minutes, dried by sponging, and prepared thus for another application of the carbide. Upon depositing the carbide in the wound, the same bubbling of gas is witnessed as before. Gauze packing is then used and the patient is permitted to remain three days until the next dressing. After a series of such applications of the dressings the ragged, necrotic-faced ulcer is converted into a simple, clean ulcer. It presents a base covered, to all appearances, with pinkish-red granulations, destitute of the gray color which characterized its appearance after the second or third dressings. After a few treatments the edges of the cavity begin to draw in, and the area of the crater is diminished. Its entire appearance impresses one with the idea that it has taken on an entirely healthy character. Further persistence in the use is followed by progressive contraction, till finally the cavity is entirely obliterated. There is a puckering of the vault of the vagina about the small uterine os that remains, the whole field being covered by healthy, pink, mucous membrane. J. H. Etheridge (Jour. Amer. Med. Assoc., July 9, '98).

VARICOSE VEINS.

Trendelenburg's operation is the ideal method of treating varicose veins of the lower extremity associated with extensive ulceration. Trendelenburg found by experiments that the veins of the leg, after they had been temporarily emptied by elevation of the limb and compression of the trunk of the saphenous vein, are refilled slowly by the return blood coming from the arteries, and instantly by a blood wave coming from above downward. The conclusion that the veins in the leg are distended by great central pressure led this surgeon to advise ligature of the saphenous vein at two points and excision of the vessel between the ligatures. An incision about 4 inches in length is made over the saphenous trunk, beginning just above the union of the lower with the middle third of the

thigh. The vein, having been exposed, is carefully freed with a blunt dissector, and all branches going off from the vessel are ligatured. A ligature is then placed on the venous trunk at the upper and another at the lower angle of the skin incision, and the portion of vein between these two ligatures is cut away with scissors. Cumston (Annals of Surgery, May, '98).

New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books:—

Conservative Gynecology and Electro-therapeutics. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. Third Edition, Revised, Rewritten, and Greatly Enlarged. By G. Betton Massey, M.D., Physician to the Gynecic Department of Howard Hospital, Philadelphia; Late Electro-therapeutist to the Infirmary for Nervous Diseases, Philadelphia; Fellow and ex-President of the American Electro-therapeutic Association, of the Société Française d'Electrotherapie, of the American Medical Association, etc. Illustrated with Twelve Full-Page Original Chromolithographic Plates in Twelve Colors, Numerous Full-Page Original Half-tone Plates of Photographs from Nature, and many other Engravings in the Text. Royal Octavo. 400 pages. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill.——Special Report of the Beet-sugar Industry in the United States. Department of Agriculture, Washington, D. C., 1898.——Year-book of the United States Department of Agriculture, 1897. ——Diphtheria und Diphtheritischer Croup. Von Dr. Adolf Baginsky. Alfred Holder, Wien, Publisher, 1898.

Monographs Received.

The editor begs to acknowledge, with thanks, the following list of monographs:—

Equilibration and its Relation to Vertigo. By Frank K. Hallock, A.M., M.D., Cromwell, Conn., 1898.——Injuries of the Newborn in Cross, Complex, and Breech Presentations. By Edwin Rosenthal, M.D., Philadelphia, 1898.——The Dosage of Diphtheria Antitoxin and Its Method of Using. By Edwin Rosenthal, M.D., Philadelphia, 1898.——Diseases of Tropical Climates: Their Prevention, Diagnosis, and Treatment. By T. S. Dabney, M.D., New Orleans, 1898.——Intubation in Diphtheria. By W. K. Simpson, M.D., New York, 1898.——An Improved Form of Stereoscope. By Charles A. Oliver, A.M., M.D., Philadelphia, 1898.——Progressive Loss of Brain-weight in Dementia. By Warren L. Babcock, M.D., Ogdensburg, N. Y., 1898.——New Forceps for Intestinal Anastomosis. By Ernest Laplace, M.D., LL.D., Philadelphia, 1898.——Report of a Case of Acute Double Hydrocele, due to Secondary Syphilis. By Howard Paxton Collings, B.S., M.D., Hot Springs, Ark., 1897.——The Periodical Cicada; an Account of Cicada Septendecim, its Natural Enemies and the Means of Preventing its Injury, together with a Summary of the Distribution of the Different Broods. By C. L. Marlett, M.S., U. S. Department of Agriculture, Washington, D. C., 1898.——Contributo Alla Statistica, Dell' ascesso Peritracheo-Laringeo Nei Bambini, Descritto Dal Massei. By Dott. Francesco Egidi, Rome, 1898.——Contributo Clinico ed Anatomo-pathologico, allo Studio

Dell' emicorea Post-emiplegica E dei Rammollimenti del Ponte di Varolio. By Dott. Alfredo Rubino, Naples.——Sull' Epilessia Sifilitica Secondaria. By Dott. Alfredo Rubino, Naples, 1898.——Neurotic Eczema. By L. Duncan Bulkley, A.M., M.D., New York, 1898.——Errors in Death-returns from Malarial and Typho-malarial Fevers; Typhoid Fever the Prevailing Fever of Washington. By William W. Johnston, M.D., Washington, D. C., 1898.——The Influence of School-life upon the Health of Children. By William W. Johnston, M.D., Washington, D. C., 1897.

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Where Noah Kept His Bees.—Dr. James K. Hosmer, while recently visiting Boston, had occasion to visit the new public library. As he went up the steps he met Edward Everett Hale, who asked the doctor's errand.

"To consult the archives," was the reply.

"By-the-way, Hosmer," said Doctor Hale, "do you know where Noah kept his bees?"

"No," answered Hosmer.

"In the ark hives," said the venerable preacher as he passed out of earshot.—"Summer Piazza Stories" in the August Ladies' Home Journal.

An Editor's Daughter's Dolls.—The editor of Harper's Magazine, Mr. Henry M. Alden, has a daughter who has made a collection of over 100 dolls, each doll representing a different nation and being made in that country. The collection is considered to be the most unique and finest of its kind in existence. Miss Alden is now to show the world her dolls, and explain them, and in the next issue of The Ladies' Home Journal she will show pictures of the first twenty. In following issues she will show the others.

Notes and Comments (continued).

Grape-juice for Patriots.—The Welch Grape-juice Company have given away over one hundred cases of grape-juice to the government, at Santiago and Montauk Point, and to hospitals where sick soldiers are being nursed to health.

Oak-Grove Hospital.—One of the happiest and most beneficent reforms of modern times relates to the treatment of the insane. In addition to those deprived of the use of their reason there are countless sufferers from nervous maladies who are entirely unfit for the struggle for existence. Perhaps a more pitiable fate than actual insanity is to be an imbecile in a slight degree, but just enough to be rendered incompetent for the serious business of life.

For the humane treatment of these unfortunates by hygienic, medicinal, and moral means the Oak-Grove Hospital, situated at Flint, Michigan, offers many advantages. The hospital is located in the midst of an ample and well-wooded domain. The apartments are well furnished, the attendance is excellent, and every arrangement has been made for the use of baths, massage, electricity, etc. The institution is also provided with gymnasium, billiard-room, bowling-alley, etc., for the use of those to whose cases and condition they may be properly adapted.

A New Vegetable Alterative Compound.—The Resinol Chemical Company, of Baltimore, have prepared a scientific combination called Cascanetta, which contains the active principles of cascara sagrada, gentian, rhubarb, trifolium, and rumex. The Elixir Cascanetta is recommended as highly serviceable in cutaneous disorders due to morbid conditions of the alimentary tract. Disorders resulting from congestion of the pelvic viscera are also alleviated by this preparation.

Axion Elastic Truss.—The axion truss is made with a superior-grade elastic-silk webbing, manufactured exclusively for use in this truss. The elastic is strong, durable, and soft. The new Axion pad gives universal satisfaction, being perfectly adjustable in every way and adapted to every variety of hernia.

Antikamnia in Acute Prostatitis.—In the course of a paper read in the Section of Surgery and Anatomy of the American Medical Association by Dr. Liston Homer Montgomery, of Chicago, antikamnia was recommended as a reliable anodyne remedy to control pain and spasm of the neck of the bladder.

Bensolyptus.—Bensolyptus is the name given by Schieffelin & Co., of New York, to a preparation containing efficient antiseptic substances as well as alkaline salts. This preparation is highly esteemed for its beneficial influence in diseases of the mucous membrane used both internally and by the mouth.

Maltzyme.—Maltzyme is an improved essence of malt, and is very useful in the treatment of starchy indigestion. It can be administered alone or, where such combinations are indicated, with cod-liver-oil, cascara segrada, and the hypophosphites.

Baird's Steam-fomenter.—This is an apparatus which should be in every household. It generates a continuous current, and its construction is so simple that it can be managed by any one. An apparatus of this kind is useful in every condition where heat is required, and

Notes and Comments (continued).

may be employed as a vapor-bath or by inhalation, according to the circumstances of each particular case. Baird's steam-fomenter can be obtained from Baird Brothers Company, of Chicago.

Chionia for the Liver.—Those who possess what is called the bilious temperament and likewise all who do not have sufficient exercise to render the circulation vigorous and stimulate the liver will be benefited by chionia, which has a special selective action upon the hepatic cells. Chionia is not a purgative, but it brings about a natural regularity of the bowels. The dose of this preparation is 1 to 2 fluidrachms three times a day, and it is made by the Peacock Chemical Company, of St. Louis.

Uterotonic (N. B. & Co.).—Uterotonic is an efficient remedy in all conditions of the female generative apparatus which are amenable to the action of internal remedies. In cases which require surgical intervention uterotonic may be properly used as an adjuvant which has a tonic and beneficial influence upon the organs of the pelvis.

Free Treatise on Electrotherapy.—The reputation of the McIntosh Battery and Optical Co., of Chicago, is of the highest order. Our readers will consequently be glad to learn of the generous offer made by such a reliable company. They offer to send post-paid and free of charge, to anyone who writes asking for it, a treatise of three hundred pages and four hundred and fifty illustrations. The book gives the technique of the various operations performed by means of electricity.

Imperial Granum.—This preparation, so favorably known to the medical profession, made an extremely-attractive display at the Denver meeting of the American Medical Association. The imperial granum is an excellent article, and wins friends wherever it goes.

Xeroform in Diseases of the Skin.—Dr. Ehrmann, of Vienna, has used xeroform for more than a year, and has treated 178 patients with it externally and 45 patients internally; as 13 received the remedy both externally and internally the entire number is equivalent to 210. His cases included superficial diseases, suppurations and necroses, and clean operative wounds. All the operative wounds healed by first intention. Secretion diminished rapidly in varicose ulcers. Xeroform was equally beneficial in moist eczema. Internally, the author gave xeroform in several diseases of the

Notes and Comments (continued).

skin notoriously accompanied by increased decomposition of the intestinal contents. Xeroform has no unpleasant odor or taste and caused no eructations. It was given in 8-grain doses three or four times a day.

Pepto-mangan in Surgical Convalescence.—Dr. Stuart McGuire, of Richmond, has tested the action of Gude's Pepto-mangan in twenty major cases on which he had operated. The period during which the preparation was used in these cases varied from ten to sixty days. The results were exceedingly satisfactory. Dr. McGuire says that when it is remembered that the patients were all confined to bed, that they were recovering from the effects of serious surgical operations, and that they were subjected to the depressing influence of hospital-life, the average increase of red blood-corpuscles is remarkable. In all the cases the number of red blood-cells was accurately determined by count.

Kryofine in Typhoid Fever and Insomnia.—Kryofine is a valuable remedy in typhoid fever because it reduces the

Notes and Comments (continued).

temperature promptly and keeps it down for a prolonged period. It increases arterial tension, has no deleterious action on the kidneys, acts favorably in patients of any age, has a marked hypnotic influence, and lessens or relieves delirium, stupor, or subsultus. In insomnia, whether dependent or not upon pain, the members of the staff of Mt. Sinai Hospital reported very satisfactory results. Led by this report Dr. I. J. Higgins made use of kryofine in an extremely obstinate case of insomnia. He administered rather more than 6 grains every night and found it effectual. For the second week it was directed to be taken every other night, which proved equally serviceable. The author reports this case with the view of interesting other observers in the clinical investigation of the drug.

"A New Created World."—If you leave home for the fall, go where you will find almost literally a new world. Such a spot is Yellowstone Park. There is no place like it in the world. You will be astonished at what you see and learn there. A month's outing in those mountains 7000 feet above the sea-level, in an atmosphere pure and invigorating, would add years to your life. There are four modern hotels, good roads—maintained by the United States Government—for riding, driving or cycling; riding-horses and pack-trains. Geysers, canyons, mud-springs, lakes, cataracts, and cascades in large number are crowded into a space 54 by 62 miles in size. If you can afford it, you wrong yourself by not going there, especially if you are a patriotic American. If you cannot afford it, then go to beautiful Leech Lake, in Minnesota, a new and popular resort. New hotels, fine fishing

Notes and Comments (continued).

and hunting, and good boating at reasonable rates. Send Charles S. Fee, of Northern Pacific Railway, St. Paul, Minn., six cents for Wonderland, '98, that describes by pen and picture both resorts. Mention where advertisement was seen.

Profits of Railways.—The Report of the Interstate Commerce Commission shows that last year the railways of the United States carried over 13,000,000,000 passengers 1 mile. They also carried 95,000,000,000 tons of freight 1 mile. The total amount paid in dividends on stock was $87,603,371—call it $88,000,000. Of the total earnings of the railways about 70 per cent. came from the freight service, and 30 per cent. from passenger-service. Let us assume, then, that of the $88,000,000 paid in dividends, 70 per cent., or $61,600,000 was profit on freight-service and $26,400,000 was profit on passenger-service. Let us drop fractions and call it $62,000,000 from freight and $26,000,000 from passengers. By dividing the passenger-profit into the number of passengers carried (13,000,000,000) we find that railways had to carry a passenger 500 miles in order to earn one dollar of profit—or 5 miles to earn one cent. Their average profit, therefore, was less than two-tenths of one cent for carrying a passenger (and his baggage) 1 mile.

By dividing the freight-profit into the freight mileage (95,000,000,000) we find that the railways had to carry one ton of freight 1,530 miles in order to earn one dollar, or over 15 miles to earn one cent. The average profit therefore was less than one-fifteenth of a cent for carrying a ton of freight (besides loading and unloading it) 1 mile.

Notes and Comments (continued).

Wampole's Liquid Wheat.—This preparation has been introduced by Henry K. Wampole & Co., of Philadelphia, as a nutrient tonic for usé in neurasthenia, lactation, indigestion, to maintain nutrition in cholera infantum, to promote development of the teeth, etc. Being palatable, it is readily taken by children.

It is described as a concentrated, predigested preparation of the whole wheat-grain, and contains over 7 per cent. of the nutrient vitalized hypophosphites and oleonitrogenous hypophosphites obtained solely from wheat, principally from the germ and cortical portion,—the parts usually rejected in making wheat-flour. It is rich in the flesh-producing gluten and albumin, contains over 4 per cent. of oil of wheat, and the wheat-starch is converted into maltose,—a direct force- and fat- making product. Especially valuable for nervous, backward children.

Each teaspoonful represents 1 ounce of the entire wheat-grain, in perfect solution, and $^1/_8$ grain U. S. P. pepsin.

The dose for adults is 1 teaspoonful, gradually increasing to 1 tablespoonful, three or more times daily, with or after meals. For children 3 to 5 years old, commence with $^1/_2$ teaspoonful, gradually increasing to 1 teaspoonful.

The Safety of Railway Travel.—Last year on American railways one passenger was killed in accidents out of every 2,827,474 passengers carried. That is to say, that you can take a train 2,827,474 times before, on the law of averages, your turn comes to be killed. You will have to travel 72,093,963 miles on the cars before that turn comes, and 4,541,945 miles before you are injured. If you travel 20 miles every day for 300 days in the year, you can keep on at it for 758 years before your turn comes to be hurt. If there had been railways when our Saviour was born and you had begun to travel on the first day of the year A.D. 1, and had traveled 100 miles in every day of every month of every year since then, you would still have (in this year 1898) nearly three million miles yet to travel before your turn came to be killed.

Fever in Infectious Diseases.—To reduce the fever in attacks of pneumonia, typhoid, gastric fever, scarlet fever, measles, etc., the following will be found to act promptly, with grateful calmative effect:—

For adults:

℞ Lactaphenin, 1 $^1/_4$ drachms.

Divide into 10 doses (tablets, powders, or capsules).

Sig.: Take 1 every three hours.

For children of 5 to 10 years:

℞ Lactophenin, 25 grains.
Sugar, 30 grains.

Divide into 10 powders and give 1 every three hours.

For children of 2 to 5 years:

℞ Lactophenin, 15 grains.
Sugar, 45 grains.

Divide into 10 powders and give 1 every three hours.

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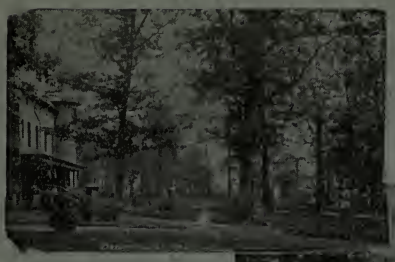

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